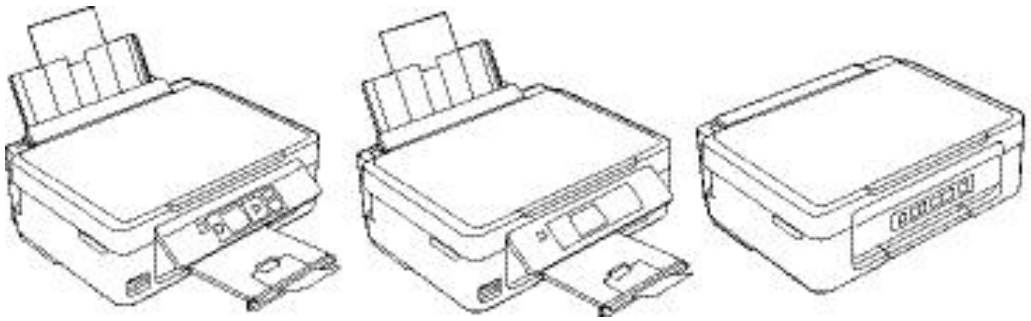
SERVICE MANUAL



Color Inkjet Printer

XP-430/XP-434/XP-431/XP-231/XP-330/XP-334/XP-432/XP-435/XP-235/XP-235A/XP-332/XP-332A/XP-335/XP-440/XP-441/XP-446/XP-240/XP-241/XP-340/XP-344/XP-442/XP-445/XP-243/XP-245/XP-247/XP-342/XP-343/XP-345/XP-452/XP-455/XP-255/XP-257/XP-352/XP-355/XP-2100/XP-2101/XP-2105/XP-2106/XP-2150/XP-2155/XP-2200/XP-2205

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Service Support Planning Department

Safety Precautions

All safety procedures described here shall be strictly adhered to by all parties servicing and maintaining this product.

DANGER

Strictly observe the following cautions. Failure to comply could result in serious bodily injury or loss of life.

1. Always disconnect the product from the power source and peripheral devices when servicing the product or performing maintenance.
2. When performing works described in this manual, do not connect to a power source until instructed to do so. Connecting to a power source causes high voltage in the power supply unit and some electronic components even if the product power switch is off. If you need to perform the work with the power cable connected to a power source, use extreme caution to avoid electrical shock.

WARNING

Strictly observe the following cautions. Failure to comply may lead to personal injury or loss of life.

1. Always wear protective goggles for disassembly and reassembly to protect your eyes from ink in working. If any ink gets in your eyes, wash your eyes with clean water and consult a doctor immediately.
2. When using compressed air products; such as air duster, for cleaning during repair and maintenance, the use of such products containing flammable gas is prohibited.

PRECAUTIONS

Strictly observe the following cautions. Failure to comply may lead to personal injury or damage of the product.

1. Repairs on Epson product should be performed only by an Epson certified repair technician.
2. No work should be performed on this product by persons unfamiliar with basic safety knowledge required for electrician.
3. The power rating of this product is indicated on the serial number/rating plate. Never connect this product to the power source whose voltages is different from the rated voltage.
4. Replace malfunctioning components only with those components provided or approved by Epson; introduction of second-source ICs or other non-approved components may damage the product and void any applicable Epson warranty.
5. The capacitors on the Main Board may be electrically charged right after the power turns off or after driving motors which generates counter electromotive force such as when rotating the PF Roller or when moving the CR Unit. There is a risk to damage the Main Board if the Head FFC is short-circuited with the capacitors on the Main Board electrically charged, therefore, after the power turns off or after motors are driven, leave the printer untouched for approximately 30 seconds to discharge the capacitors before starting disassembly/ reassembly.
6. To prevent the circuit boards from short-circuiting, be careful about the following when handling FFC or cables.
   - When handling FFC, take care not to let the terminal section of FFC touch metal parts.
   - When connecting cables/FFC to the connectors on circuit boards, connect them straight to the connectors to avoid slant insertion.

7. In order to protect sensitive microprocessors and circuitry, use static discharge equipment, such as anti-static wrist straps, when accessing internal components.
8. Do not tilt this product immediately after initial ink charge, especially after performing the ink charge several times. Doing so may cause ink to leak from the product because it may take some time for the waste ink pads to completely absorb ink wasted due to the ink charge.
9. Never touch the ink or wasted ink with bare hands. If ink comes into contact with your skin, wash it off with soap and water immediately. If you have a skin irritation, consult a doctor immediately.
10. When disassembling or assembling this product, make sure to wear gloves to avoid injuries from metal parts with sharp edges.
11. Use only recommended tools for disassembling, assembling or adjusting the printer.
12. Observe the specified torque when tightening screws.
13. Be extremely careful not to scratch or contaminate the following parts.
    - Nozzle plate of the Printhead
    - CR Scale
    - PF Scale
    - Coated surface of the PF Roller
    - Gears
    - Rollers
    - LCD
    - Scanner Sensor
    - Exterior parts
14. Never use oil or grease other than those specified in this manual. Use of different types of oil or grease may damage the component or give bad influence on the printer function.
15. Apply the specified amount of grease described in this manual.
16. Make the specified adjustments when you disassemble the printer.
17. When cleaning this product, follow the procedure described in this manual.
18. When transporting this product after filling the ink in the printhead, pack the printer without removing the ink cartridges in order to prevent the printhead from drying out.
19. Make sure to install antivirus software in the computers used for the service support activities.
20. Keep the virus pattern file of antivirus software up-to-date.
21. When disassembling/reassembling this product, if you find adhesive power of the double-sided tape which secure the parts or FFC is not enough, replace the tape with new one and attach it correctly to the specified points where the parts or FFC should be secured.
22. Unless otherwise specified in this manual, the labels attached on the returned product should be transferred to the corresponding attachment positions on the new one referring to the labels on the returned product.

About This Manual

This manual, consists of the following chapters, is intended for repair service personnel and includes information necessary for properly performing maintenance and servicing the product.

CHAPTER 1. TROUBLESHOOTING

Describes the step-by-step procedures for the troubleshooting.

CHAPTER 2. DISASSEMBLY / REASSEMBLY

Describes the disassembly/reassembly procedures for main parts/units of the product, and provides the standard operation time for servicing the product.

CHAPTER 3. ADJUSTMENT

Describes the required adjustments for servicing the product.

CHAPTER 4. MAINTENANCE

Describes maintenance items and procedures for servicing the product.

CHAPTER 5. REFURBISHMENT

Describes refurbishing work of the product and its purpose.

CHAPTER 6. APPENDIX

Provides the following additional information for reference:

- Connector Diagram
- Protection for Transportation

Symbols Used in this Manual

Various symbols are used throughout this manual either to provide additional information on a specific topic or to warn of possible danger present during a procedure or an action. Pay attention to all symbols when they are used, and always read explanation thoroughly and follow the instructions.

Indicates an operating or maintenance procedure, practice or condition that, if not strictly observed, could result in serious injury or loss of life.

Indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in bodily injury, damage or malfunction of equipment.

May indicate an operating or maintenance procedure, practice or condition that is necessary to accomplish a task efficiently. It may also provide additional information that is related to a specific subject, or comment on the results achieved through a previous action.

For Chapter 2 “Disassembly/Reassembly”, symbols other than indicated above are used to show additional information for disassembly/reassembly. For the details on those symbols, see "2.2 Disassembly/Reassembly Procedures (p32)".

Revision Status

Revision	Date of Issue	Description
A	June 09, 2015	First Release
B	February 12,2016	Revised Contents ☐ All chapters ■ Description about Epson XP-235A/XP-332A has been added. ☐ Chapter 6 ■ "6.2.2 Securing the CR Unit (p86)" has been added.
C	June 09, 2016	Revised Contents ☐ All chapters ■ Description about XP-440/XP-441/XP-446/XP-240/XP-241/XP-340/XP-344/XP-442/XP-445/XP-243/XP-245/XP-247/XP-342/XP-343/XP-345 has been added. ☐ Chapter 1 ■ "1.3.4 Printer Fatal Error Code (XP-440/340/442/452/240/245/255/342/352/2100/2200 series) (p21)" has been added ☐ Chapter 6 ■ "6.1 Connector Diagram (p83)" XP-440/240/340/442/245/342 series has been added.
D	Oct, 24, 2017	Revised Contents ☐ Chapter 1 ■ "1.3.4 Printer Fatal Error Code (XP-440/340/442/452/240/245/255/342/352/2100/2200 series) (p21)" Fatal error code: C8H has been added.
E	Jan, 25, 2018	Revised Contents ☐ All chapters ■ Description about Epson XP-452/XP-455/XP-255/XP-257/XP-352/XP-355 has been added. ☐Chapter 1 ■ " Firmware failure (p23)" Fatal error code: 20xxxx (Firmware failure) possible cause has been added.
F	May, 7, 2019	Revised Contents ☐ All chapters ■ Description about Epson XP-2100/XP-2101/XP-2105 has been added. ☐ Chapter 1 ■ Made change in "1-2 Fault Detection Plate (Except for XP-2100/XP-2200 series) (p19)" ☐Chapter 2 ■ Disassembly Flowchart " Sheet Panel (XP-2100/2200 series) (p35)" “Sheet Panel is included in XP-2100/XP-2101/XP-2105.” has been added. ■ " Reflector PIS Assy (p50)" “Reflector PIS Assy is not included in XP-2100 series.” has been added. ☐Chapter 5 ■ " Jigs (XP-2100 series, XP-2200 series) (p81)" “Ink discharge jigs in XP-2100 series.” has been added. ☐Chapter 6 ■ "6.2 Protection for Transportation (p85)" Change in tape name (Strong Tape ---> Tessa Tape) ☐Chapter 7 ■ "7.1 Overview (p90)" Description about Epson XP-2100/XP-2101/XP-2105 has been added.

Revision	Date of Issue	Description
G	Oct, 21, 2019	Revised Contents ☐ All chapters ■ Description about Epson XP-2106 has been added.
H	July, 6, 2021	Revised Contents ☐ All chapters ■ Description about Epson XP-2150/XP-2155 has been added.
I	May, 24, 2022	Revised Contents ☐ All chapters ■ Description about Epson XP-2200/XP-2205 has been added.
J	October, 28, 2022	Revised Contents ☐ Chapter 3 ■ "3.2.2.5 Initial Setting (p62)"has been added. ☐ Chapter 6 ■ "6.2.4 Firmware of the main board for ASP (p88)"has been added.

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CHAPTER **1**

TROUBLESHOOTING

1.1 Troubleshooting

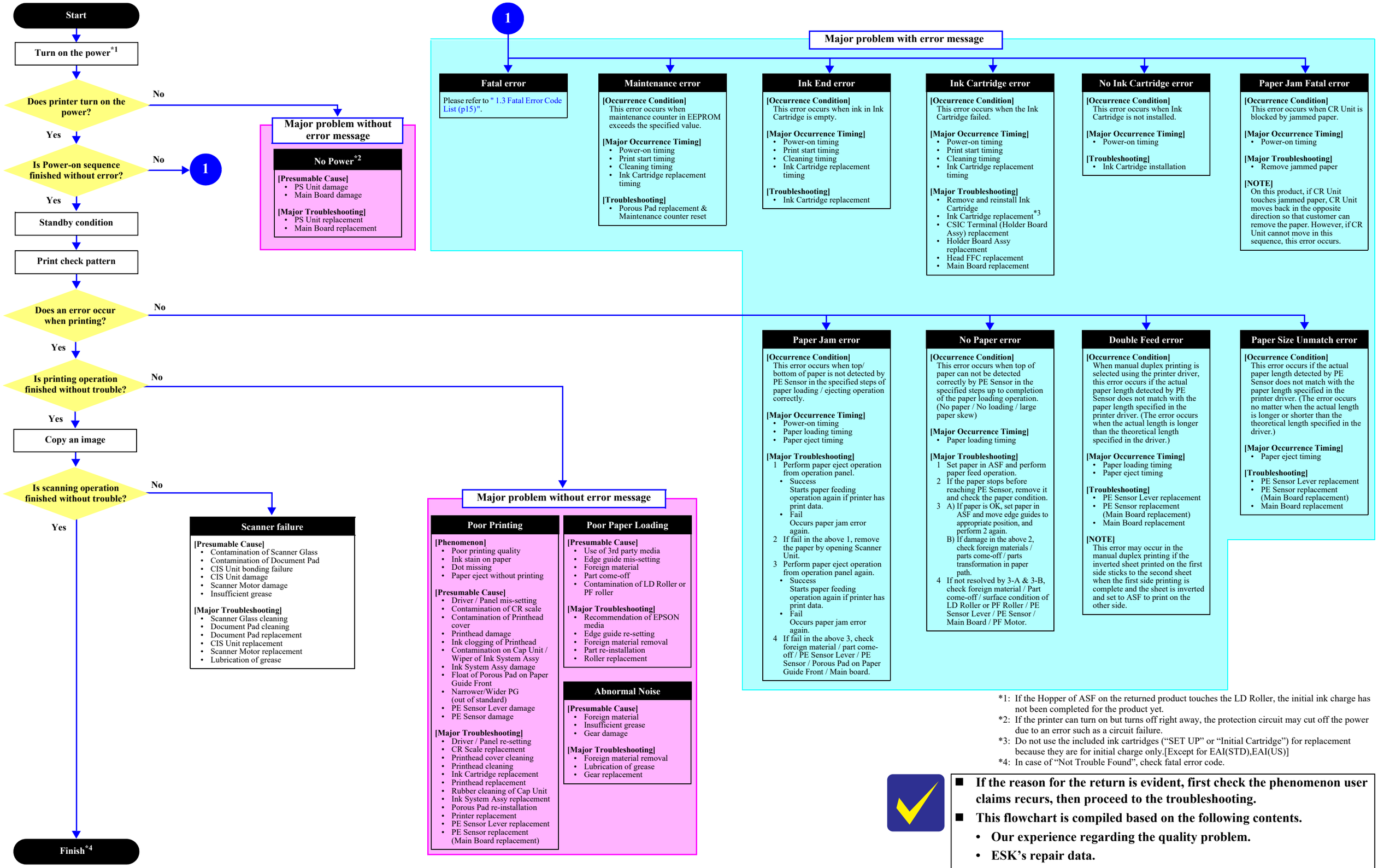
This section describes the troubleshooting workflow and fatal error information.

In this chapter, the product names are called as follows:

- **XP-430 series: XP-430/XP-431/XP-434**
- **XP-231 series: XP-231**
- **XP-330 series: XP-330/XP-334**
- **XP-432 series: XP-432/XP-435**
- **XP-235 series: XP-235/XP-235A**
- **XP-332 series: XP-332/XP-332A/XP-335**
- **XP-440 series: XP-440/XP-441/XP-446**
- **XP-240 series: XP-240/XP-241**
- **XP-340 series: XP-340/XP-344**
- **XP-442 series: XP-442/XP-445**
- **XP-245 series: XP-243/XP-245/XP-247**
- **XP-342 series: XP-342/XP-343/XP-345**
- **XP-452 series: XP-452/XP-455**
- **XP-255 series: XP-255/XP-257**
- **XP-352 series: XP-352/XP-355**
- **XP-2100 series: XP-2100/XP-2101/XP-2105/XP-2106/XP-2150/XP-2155**
- **XP-2200 series: XP-2200/XP-2205**

1.1.1 Troubleshooting Workflow

The following page describes the troubleshooting workflow. Follow the flow when troubleshooting problems.



*1: If the Hopper of ASF on the returned product touches the LD Roller, the initial ink charge has not been completed for the product yet.
*2: If the printer can turn on but turns off right away, the protection circuit may cut off the power due to an error such as a circuit failure.
*3: Do not use the included ink cartridges (“SET UP” or “Initial Cartridge”) for replacement because they are for initial charge only.[Except for EAI(STD),EAI(US)]
*4: In case of “Not Trouble Found”, check fatal error code.

- **If the reason for the return is evident, first check the phenomenon user claims recurs, then proceed to the troubleshooting.**
- **This flowchart is compiled based on the following contents.**
  - **Our experience regarding the quality problem.**
  - **ESK’s repair data.**
  - **Printer Mechanism specification for the product.**

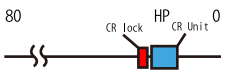
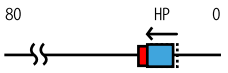
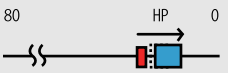
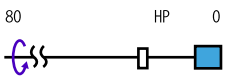
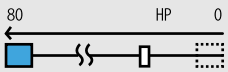
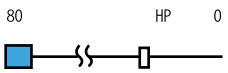
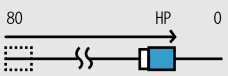
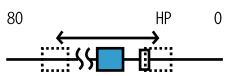
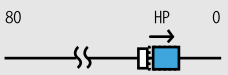
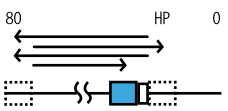
1.2 Power-On Sequence

This section describes the power-on sequences in two conditions. The preconditions are as follows.

☐ Condition 1: Normal power-on sequence (See Table 1-1.)

- Turning on the printer after turning it off without an error.
- Initial ink charge has finished and every cartridge has sufficient ink.
- No paper on the paper path.
- The Printhead is capped with the Cap Assy.
- The CR Unit is normally fixed by the Change Lever.
- Maintenance error recovery has never been performed.

Table 1-1. Condition 1: Normal Power-on Sequence

Operation*1	CR Unit/PF Roller movement and position*2
1. Printhead initialization and fuse inspection 1-1.Initializes the Printhead, and checks for the fuse on the circuit boards in the printer.*3	
2. Checking for waste ink overflow 2-1.Checks the waste ink counter if the waste ink overflow is occurring.	
3. Seeking the home position 3-1.The CR Unit moves to the 80-digit side slowly and confirms it touches the Change Lever (CR lock).	
3-2.The CR Unit moves to the 0-digit side slowly.	
3-3.After the PE Sensor checks if paper exists, the PF Motor rotates clockwise for one second and releases the CR lock.	
3-4.While checking if the CR Unit does not touch the Change Lever (CR lock) or the foreign material, the CR Unit moves to the 80-digit side slowly until it touches the Left Frame.	
3-5.The distance from the position where the CR Unit touched to the Left Frame is regarded as the standard distance from the origin position, and the home position is fixed. From then on, the CR Unit position is monitored according to the signals from the CR Encoder.	
3-6.The CR Unit moves to near its home position quickly.	
4. Detecting ink cartridge and initializing ink system*4 4-1.To check the operation of the PIS Sensor and to detect ink, the CR Unit moves back and forth over the PIS Sensor three to twelve times.	
4-2.The CR Unit returns to its home position.	
5. Low temperature operation sequence*5 5-1.The CR Unit quickly moves back and forth between near the Change Lever and near the Left Frame for two times.	

Note 1: The rotation directions of the PF Motor are as follows.

Clockwise:	Paper is fed normally
Counterclockwise:	Paper is fed backward

*2: The conditions of the CR lock are as follows.

Red	CR lock is set
White	CR lock is released

*3: The fatal error occurs if there is a problem such as the fuse blew.

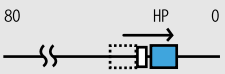
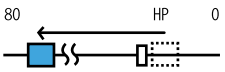
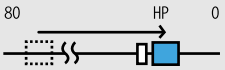
*4: The empty suction operation may occur depending on the situation.

*5: Executed when the detected temperature is under 5 ^{o}C (41^{o}F) by the thermistor on the Printhead.

☐ Condition 2: Power-on sequence after recovering from a paper jam error (See Table 1-2.)

- ■ Turning on the printer after turning it off with a paper jam fatal error.
- ■ There still remains paper on the paper path out of the detecting area of the PE Sensor.
- ■ Maintenance error recovery has never been performed.

Table 1-2. Condition 2: Power-on Sequence after Recovering from a Paper Jam Error

Operation	CR Unit/PF Roller movement and position
Executes No.1 to No.3 on the normal power-on sequence (Table 1-1).	
4. Detecting remaining paper 4-1.5.The CR Unit returns to its home position.	
4-2.The CR Unit moves to the 80-digit side and confirms there is no paper.*1	
4-3.The CR Unit quickly returns to its home position, and displays on the LCD or with flashing LEDs that the paper jam error occurs.	
When the user removes the paper and releases the paper jam error by panel operation, the normal power-on sequence from No.1 (Table 1-1) is executed again.*2	

Note *1: "Paper exists" is detected when the CR Unit touches the paper. When "paper does not exist" is detected, the power-on sequence of condition 1 (Table 1-1) is executed from No.4.

*2: If the paper jam error cannot be solved after repeating the power-on sequence on condition 2 (Table 1-2) twice, the printer turns into the paper jam fatal error for the third time.

- ■ **To recover from the maintenance error, the dedicated software that can be downloaded from the web site which can be accessed from STM3 is required.**
- ■ **The printer operation related to the maintenance error recovery is as follows.**
  - **When the waste ink counter reaches the threshold value (1) for the first time and the maintenance error occurs, the counter threshold of the maintenance error is changed to threshold value 2 after performing recovery from the maintenance error.**
  - **After the threshold value (2) is enabled, the warning; to notify the possibility of ink leakage out of the printer, is displayed every time the waste ink counter increases by 1%.**
  - **If the waste ink counter reaches the threshold value (2), the maintenance error occurs. Then, the waste ink counter is changed back to the threshold value (1) after recovering from the maintenance error, and the warning is displayed repeatedly according to the increment of the waste ink counter until the maintenance error occurs when the threshold value (2) is reached.**
    (Recovery from the maintenance error can be performed up to the specified number of times.)

1.3 Fatal Error Code List

This section describes how to check the fatal error code, description, and the possible causes.

1.3.1 Displaying the Fatal Error Code

The fatal error code is stored in the EEPROM on the Main Board and can be read out using the Adjustment Program. The code can be displayed on the LCD of the control panel by a special panel operation.

- **Since XP-231/235/240/245/255/2100/2200 series does not have LCD, use the Adjustment Program to check the fatal error code.**
- **The printer fatal error code can be displayed.**
- **For the fatal error codes, descriptions, and their possible causes, see " 1.3.2 Printer Fatal Error Code(FY15 Model) (p16)"**

Check the displayed fatal error code(FY15 Model)

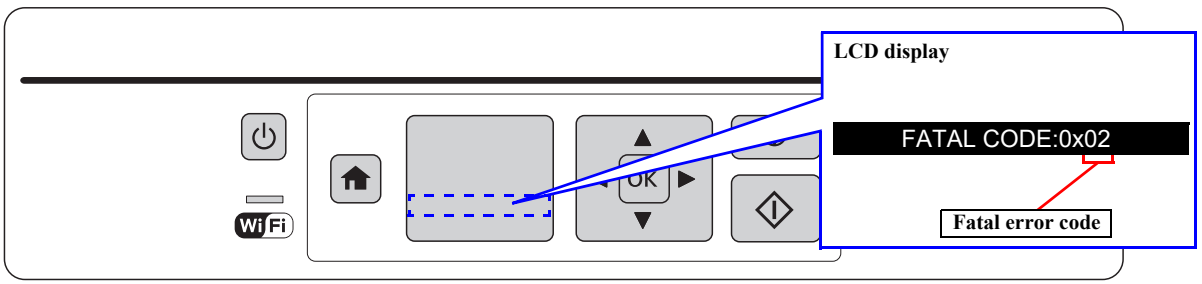
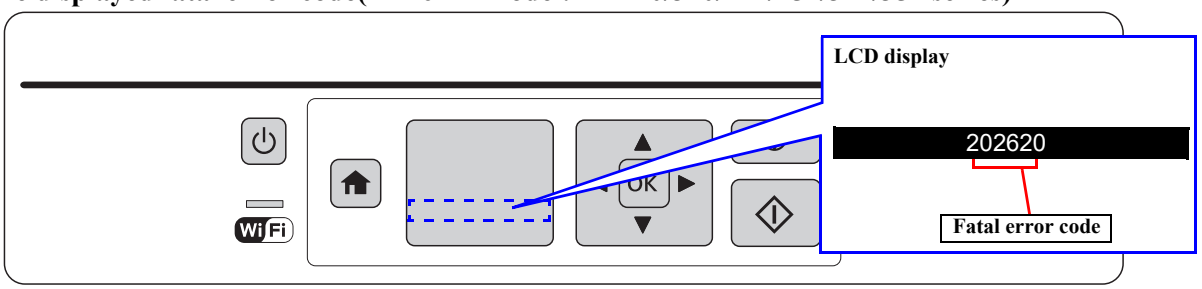


Figure 1-1. Displaying the Fatal Error Code

Check the displayed fatal error code(FY16-17 Model:XP-440/340/442/452/342/352 series)



1.3.2 Printer Fatal Error Code(FY15 Model)

This section describes the printer fatal error code and the possible cause for this product.

Table 1-3. Fatal Error List (Printer)

Category	Error code	Error name	Possible cause
DC moter error	E1H	CR PID overload error	• CR Motor failure • CR Unit drive mechanism overload (paper jam, foreign object, insufficient grease, deformation of the Main Frame) • Some part may be detached. (Paper Guide Upper Assy, Cap Assy) • Tooth skip of the CR Timing Belt • Improper tension of the CR Timing Belt • Cable disconnection • Main Board failure (Motor driver failure)
	E2H	CR PID excess speed error	• CR Encoder failure (contaminated/detached scale, Encoder Sensor failure) • Main Board failure (Motor driver failure)
	E3H	CR PID reverse error	• CR Encoder failure (contaminated/detached scale, Encoder Sensor failure) • Some external force is applied to the printer such as stopping the CR Unit during printer operation, vibration or the like. • Tooth skip of the CR Timing Belt • Paper jam • Main Board failure (Motor driver failure)
	E4H	CR PID lock error	• CR Encoder failure (contaminated/detached scale, Encoder Sensor failure) • CR Motor failure • CR Unit drive mechanism overload (paper jam, foreign object, insufficient grease, deformation of the Main Frame) • Some part may be detached. (Paper Guide Upper Assy, Cap Assy) • Cable disconnection • Main Board failure (Motor driver failure)
	E8H	CR load position reverse error	• CR Encoder failure (contaminated/detached scale, Encoder Sensor failure) • Main Board failure (Motor driver failure)
	E9H	CR load position excess speed error	• CR Encoder failure (contaminated/detached scale, Encoder Sensor failure) • Tooth skip of the CR Timing Belt • Improper tension of the CR Timing Belt • Paper jam • Main Board failure (Motor driver failure)
	EAH	CR load position excess load error	• CR Motor failure • CR Unit drive mechanism overload (paper jam, foreign object, Change Lever failure) • Cable disconnection • Main Board failure (Motor driver failure)
	F1H	PF PID excess load error	• PF Motor failure • PF drive mechanism overload (paper jam, foreign object, insufficient grease, deformation of the Main Frame) • Tooth skip of the PF Timing Belt • Improper tension of the PF Timing Belt • Cable disconnection • Main Board failure (Motor driver failure)
	F2H	PF PID excess speed error	• PF Encoder failure (contaminated/detached scale, Encoder Sensor failure) • Tooth skip of the PF Timing Belt • Improper tension of the PF Timing Belt • Main Board failure (Motor driver failure)

Table 1-3. Fatal Error List (Printer)

Category	Error code	Error name	Possible cause
DC motor error	F3H	PF PID reverse error	• PF Encoder failure (contaminated/detached scale, Encoder Sensor failure) • Tooth skip of the PF Timing Belt • Improper tension of the PF Timing Belt • Paper jam • Paper is pulled out from the ASF side when paper is fed • Main Board failure (Motor driver failure)
	F4H	PF PID lock error	• PF Encoder failure (contaminated/detached scale, Encoder Sensor failure) • PF Motor failure • PF drive mechanism overload (paper jam, foreign object, insufficient grease, deformation of the Main Frame) • Cable disconnection • Main Board failure (Motor driver failure)
	F8H	PF load position reverse error	• PF Encoder failure (contaminated/detached scale, Encoder Sensor failure) • Tooth skip of the PF Timing Belt • Improper tension of the PF Timing Belt
	F9H	PF load position excess speed error	• PF Encoder failure (contaminated/detached scale, Encoder Sensor failure) • Tooth skip of the PF Timing Belt • Improper tension of the PF Timing Belt • Main Board failure (Motor driver failure)
	FAH	PF load position excess load error	• PF Motor failure • PF drive mechanism overload (paper jam, foreign object) • Tooth skip of the PF Timing Belt • Improper tension of the PF Timing Belt • Cable disconnection
	FCH	PF load position error	• PF Encoder failure (contaminated/detached scale, Encoder Sensor failure) • PF Motor failure • PF drive mechanism overload (paper jam, foreign object) • Cable disconnection
Motor drive time error	EEH	CR (PID) driving time error	• Main Board failure (Firmware failure)
	EFH	CR (load position) driving time error	• Change Lever failure • CR Motor failure • Main Board failure (Motor driver failure)
	FEH	PF (PID) driving time error	• Main Board failure (Firmware failure)
	FFH	PF (BS) driving time error	• Change Lever failure • CR Motor failure • Main Board failure (Motor driver failure)
Printhead system error	9BH	Transistor temperature error	• Main Board failure
	9CH	X-Hot detect error (pre printing)	• Printhead failure • Main Board failure
	9DH	X-Hot detect error (after flushing)	
	9EH	Head temperature error	
Sequence error	60H	Home position error	• Foreign object • Deformation of the Main Frame • Change Lever failure • Paper jam
	63H	Contact error at ink replacement timing (Power-off)	• Foreign object • Ink Cartridges are not installed correctly • Paper jam
	64H	Insoluble paper jam error	• Foreign object • Deformation of the Main Frame • Change Lever failure • Paper jam

Table 1-3. Fatal Error List (Printer)

Category	Error code	Error name	Possible cause
Ink device error	B9H - BAH	Ink device error	• Ink Cartridge failure • Holder Board Assy failure (CSIC Terminal failure/CR Contact Module failure) • Main Board failure
	C0H	CRCM access error	• Ink cartridge failure • Holder Board Assy failure (CSIC Terminal failure/CR Contact Module failure) • Main Board failure • Cable disconnection
	C1H	CRCM access error	
	C3H	Ink device Error	
Other error	C8H	PCD error	• PCD Data failure
	8DH	The cause is not printer device error	• Scanner failure
Circuit error	9AH	Circuit error (include blowout of a fuse)	• Main Board failure
PIS Board device error	81H	Environmental light error	• Diffused light
	82H	Ref reflection error	• PIS failure • Main Board failure • Diffused light
	83H	Reflector no reflection error	• Defective Fault Detection Plate* (detachment, peeled reflector) • Sensor failure (contaminated Sensor, damaged FFC, PIS Board installation failure)
	84H	Device Gao abnoml Error	• Home position gap • Diffused light
	85H	PWM duty abnomal	• PIS failure (installation posture, contamination)
	86H	PWM no Duty error	
	87H	No decision empty error	
	88H	Excessive Light error	• Abnormal sensor output (Sensor failure, PIS Board failure) • Unexpected excessive amount of light such as too much diffused light from outside is shed on the sensor because the housings are removed. (When used outdoors or near the window where direct sunlight comes in)
	89H	Insufficient Light error	• Sensor failure (PIS Board installation failure, contaminated Sensor) • Abnormal sensor output (Break of FFC during printer operation, PIS Board failure) • Unable to accurately detect where the fault detection plate is because too much diffused light from outside is shed on the sensor. (When used outdoors or near the window where direct sunlight comes in) • Ink Cartridge failure (contaminated/damaged prism)

Note *: Fault Detection Plate is a reflector attached on the CR Unit. (See Fig. 1-2)

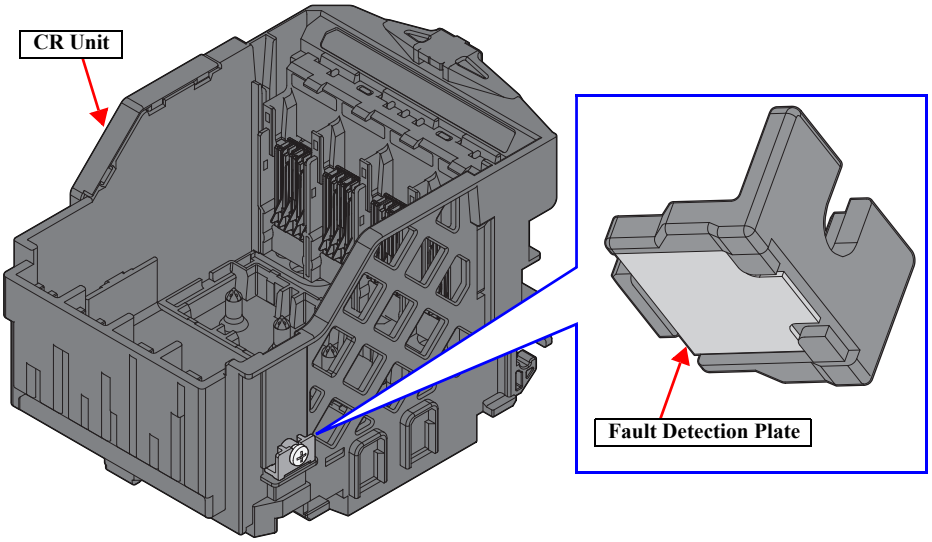


Figure 1-2. Fault Detection Plate (Except for XP-2100/XP-2200 series)

1.3.3 Scanner Fatal Error Code

This section describes the scanner fatal error code and the possible cause for this product.

Table 1-4. Fatal Error List (Scanner)

Error code	Error name	Possible cause
10H	Home position detection error	• CIS Module failure • Scanner Housing Upper failure (home seek pattern*1 is dirty) • Scanner Housing Lower failure (the rack section*2 is damaged) • Scanner Motor failure • Insufficient grease • Foreign object • FFC disconnection/failure • Main Board failure
20H	LED lightning error	• CIS Module failure • Foreign object • Scanner Housing Upper failure (white standard pattern*1 is dirty) • Main Board failure
14H	Scanner CR Measurement Error	• Scanner motor failure • Insufficient grease • Foreign material • Gear broken • Carriage axle deformation or not smooth

Note *1: The home seek pattern and the white standard pattern are attached on the back of the Scanner Housing Upper near the home position.

*2: The rack section is the linearly-arranged toothed area on the Scanner Housing Lower. (See Fig. 1-3.)

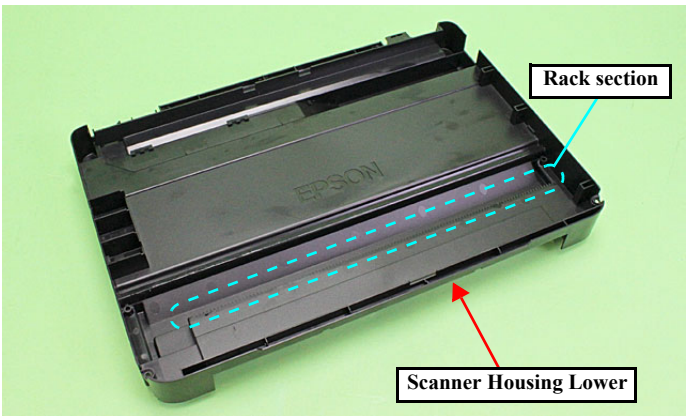


Figure 1-3. Rack section

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1.3.4 Printer Fatal Error Code (XP-440/340/442/452/240/245/255/342/352/2100/2200 series)

This section describes the printer fatal error code and the possible cause for this product.

Table 1-5. Fatal Error List (Printer/Scanner/System)

Category	Error code	Error name	Possible cause
Printer error	000020	CR PID driving time error	• Main Board failure
	000021	CR PID overload error	• CR Motor failure • CR Unit drive mechanism overload (paper jam, foreign object, insufficient grease, deformation of the Main Frame) • Some part may be detached. (Paper Guide Upper Assy, Cap Assy) • Tooth skip of the CR Timing Belt • Improper tension of the CR Timing Belt • Cable disconnection • Main Board failure (Motor driver failure)
	000022	CR PID excess speed error	• CR Encoder failure (contaminated/detached scale, Encoder Sensor failure) • Main Board failure (Motor driver failure)
	000023	CR PID reverse error	• CR Encoder failure (contaminated/detached scale, Encoder Sensor failure) • Some external force is applied to the printer such as stopping the CR Unit during printer operation, vibration or the like. • Tooth skip of the CR Timing Belt • Paper jam • Main Board failure (Motor driver failure)
	000024	CR PID lock error	• CR Encoder failure (contaminated/detached scale, Encoder Sensor failure) • CR Motor failure • CR Unit drive mechanism overload (paper jam, foreign object, insufficient grease, deformation of the Main Frame) • Some part may be detached. (Paper Guide Upper Assy, Cap Assy) • Cable disconnection • Main Board failure (Motor driver failure)
	000025	CR PID speed fall error	• Main Board failure (Firmware failure) • Cartridge overload due to paper jam
	000030	CR load position driving time error	• Change Lever failure • CR Motor failure • Main Board failure (Motor driver failure)
	000031	CR load position excess load error	• PF Motor failure • PF drive mechanism overload (paper jam, foreign object) • Tooth skip of the PF Timing Belt • Improper tension of the PF Timing Belt • Cable disconnection
	000032	CR load position overspeed error	• PF Encoder failure (contaminated/detached scale, Encoder Sensor failure) • Tooth skip of the PF Timing Belt • Improper tension of the PF Timing Belt • Main Board failure (Motor driver failure)
	000033	CR load position reverse error	• CR Encoder failure (contaminated/detached scale, Encoder Sensor failure) • Main Board failure (Motor driver failure)
	000040	PF(PID) driving overtime error	• Main Board failure (Firmware failure)
	000041	PF PID overload error	• PF Motor failure • PF drive mechanism overload (paper jam, foreign object, insufficient grease, deformation of the Main Frame) • Tooth skip of the PF Timing Belt • Improper tension of the PF Timing Belt • Cable disconnection • Main Board failure (Motor driver failure)

Confidential

Table 1-5. Fatal Error List (Printer/Scanner/System)

Category	Error code	Error name	Possible cause
Printer error	000042	PF PID overspeed error	• PF Encoder failure (contaminated/detached scale, Encoder Sensor failure) • Tooth skip of the PF Timing Belt • Improper tension of the PF Timing Belt • Main Board failure (Motor driver failure)
	000043	PF PID reverse error	• PF Encoder failure (contaminated/detached scale, Encoder Sensor failure) • Tooth skip of the PF Timing Belt • Improper tension of the PF Timing Belt • Paper jam • Paper is pulled out from the ASF side when paper is fed • Main Board failure (Motor driver failure)
	000044	PF PID lock error	• PF Encoder failure (contaminated/detached scale, Encoder Sensor failure) • PF Motor failure • PF drive mechanism overload (paper jam, foreign object, insufficient grease, deformation of the Main Frame) • Cable disconnection • Main Board failure (Motor driver failure)
	000050	PF load position driving overtime error	• PF Encoder failure (contaminated/detached scale, Encoder Sensor failure) • PF Motor failure • PF drive mechanism overload (paper jam, foreign object) • Cable disconnection
	000051	PF load postion	• PF Motor failure • PF drive mechanism overload (paper jam, foreign object) • Tooth skip of the PF Timing Belt • Improper tension of the PF Timing Belt • Cable disconnection
	000052	PF load position excess speed error	• PF Encoder failure (contaminated/detached scale, Encoder Sensor failure) • Tooth skip of the PF Timing Belt • Improper tension of the PF Timing Belt • Main Board failure (Motor driver failure)
	000053	PF load position reverse error	• PF Encoder failure (contaminated/detached scale, Encoder Sensor failure) • Tooth skip of the PF Timing Belt • Improper tension of the PF Timing Belt
	031001	X-Hot detect error (pre printing)	• Printhead failure • Main Board failure
	031002	X-Hot detect error (after flushing)	• Printhead failure • Main Board failure
	031003	Transistor temperature error	• Main Board failure
	031004	Head temperature error	• Printhead failure • Main Board failure
	031005	Headhot error during ink replacement	• Printhead failure • Main Board failure
	031006	Head fuse broken error	• Printhead failure
	031007	Power off error due to abnonal printing	• Abnormal printhead control
	033001	CRC fuse borken error	• CRCM failure
	033002	ASIC access error	• Main Board failure
	033003	CCS rank setting error	• Main Board failure
	033004	SC transmission fetal error	• Main Board failure
	033006	Read parity error	• Main Board failure
	033007	Write parity error	• Main Board failure
	033008	Access inconsistent error	• Main Board failure
	033009	Print error with Jig	• Not occures except in manufacturing process

Table 1-5. Fatal Error List (Printer/Scanner/System)

Category	Error code	Error name	Possible cause
Printer error	033501	ILS light error	• Unable to accurately detect where the fault detection plate is because too much diffused light from outside is shed on the sensor. (When used outdoors or near the window where direct sunlight comes in)
	033503	Reflector no reflection error	• Defective Fault Detection Plate* (detachment, peeled reflector) • Sensor failure (contaminated Sensor, damaged FFC, PIS Board installation failure)
	033504	ILS abnormal error	• Defective Fault Detection Plate* (detachment, peeled reflector) • Sensor failure (contaminated Sensor, damaged FFC, PIS Board installation failure)
	033505	ILS Empt jig error	• No occures except in manufacturing prodess.
	033506	Light excessive error	• Abnormal sensor output (Sensor failure, PIS Board failure) • Unexpected excessive amount of light such as too much diffused light from outside is shed on the sensor because the housings are removed. (When used outdoors or near the window where direct sunlight comes in)
	033507	Insufficient light error	• Sensor failure (PIS Board installation failure, contaminated Sensor) • Abnormal sensor output (Break of FFC during printer operation, PIS Board failure) • Unable to accurately detect where the fault detection plate is because too much diffused light from outside is shed on the sensor. (When used outdoors or near the window where direct sunlight comes in) • Ink Cartridge failure (contaminated/damaged prism)
	034001	Home position error	• Foreign object • Deformation of the Main Frame • Change Lever failure • Paper jam
	034004	Insoluble paper jam error	• Foreign object • Deformation of the Main Frame • Change Lever failure • Paper jam
	060001	The cause is not printer device error	• Scanner failure
Scanner error	100016	HP detection failure	• CIS Unit failure • Scanner Housing Upper failure • Scanner Housing Lower failure • Scanner Motor failure • Foreign object • Main Board failure
	100020	Measurement error	• Scanner drive mechanism was overloaded • Insufficient grease • Foreign object • Lack of gears • Deformation of the shaft
	100032	LED light error	• CIS Unit failure • Main Board failure
System error	202620	Wi Fi error	• WiFi board failure
	205102	Card board error	• Card board error
	20xxxx	Firmware failure	• Firmware failure (Error by user) • Main Board failure (When there is reoccurrence)

Note *: Fault Detection Plate is a reflector attached on the CR Unit. (See Fig. 1-2)

CHAPTER **2**

DISASSEMBLY/REASSEMBLY

2.1 Overview

In this chapter, the product names are called as follows:

- **XP-430 series: XP-430/XP-431/XP-434**
- **XP-231 series: XP-231**
- **XP-330 series: XP-330/XP-334**
- **XP-432 series: XP-432/XP-435**
- **XP-235 series: XP-235/XP-235A**
- **XP-332 series: XP-332/XP-332A/XP-335**
- **XP-440 series: XP-440/XP-441/XP-446**
- **XP-240 series: XP-240/XP-241**
- **XP-340 series: XP-340/XP-344**
- **XP-442 series: XP-442/XP-445**
- **XP-245 series: XP-243/XP-245/XP-247**
- **XP-342 series: XP-342/XP-343/XP-345**
- **XP-452 series: XP-452/XP-455**
- **XP-255 series: XP-255/XP-257**
- **XP-352 series: XP-352/XP-355**
- **XP-2100 series: XP-2100/XP-2101/XP-2105/XP-2106/XP-2150/XP-2155**
- **XP-2200 series: XP-2200/XP-2205**

This chapter describes procedures for disassembling the main parts/units of this product. Unless otherwise specified, disassembled parts/units can be reassembled by reversing the disassembly procedure. See the cautions or tips for disassembly/reassembly described in "2.3 Detailed Disassembly/Reassembly Procedure for each Part/Unit (p43)".
Read the "Safety Precautions(p3)" before disassembling and reassembling.
When you have to remove units or parts that are not described in this chapter, see the exploded diagrams of SPI (Service Parts Information).

2.1.1 Tools

Use only specified tools to avoid damaging the printer.

Name	Availability	EPSON Part Code
(+) Phillips screwdriver #1	O	1080530
(+) Phillips screwdriver #2	O	---
Flathead screwdriver	O	---
Flathead Precision screwdriver #1	O	---
Tweezers	O	---
Longnose pliers	O	---
Acetate tape	---	1003963

Note 1: Some of the tools listed above are commercially available.
2: EPSON provides the tools listed with EPSON part code.

2.1.2 Jigs

Name	Quantity	EPSON Part Code
Spring hook jig*	1	Can be made with a commercial item See " Making the Spring Hook Jig (p25)".
Thickness gauge (1.5 mm)	2	Commercially available
Thickness gauge (2.0 mm)	2	Commercially available
Sonic tension meter	1	1879818

Note *: If performing the disassembling/reassembling procedure is difficult using tweezers such as when reassembling " Cap Lever/Cap Assy (p47)", the spring hook jig helps you to remove/attach the spring easier.

2.1.2.1 Making the Spring Hook Jig

Fold a clip (commercial item) as shown in Fig. 2-1.

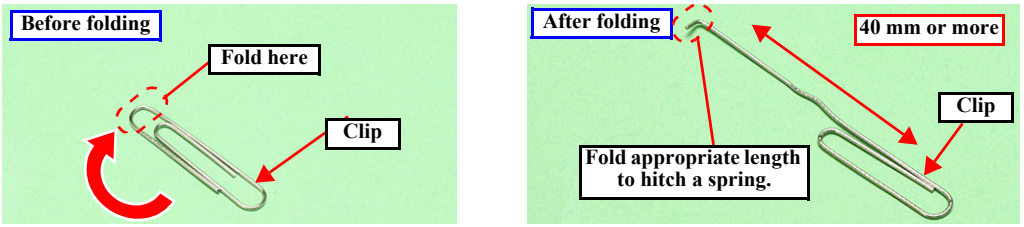


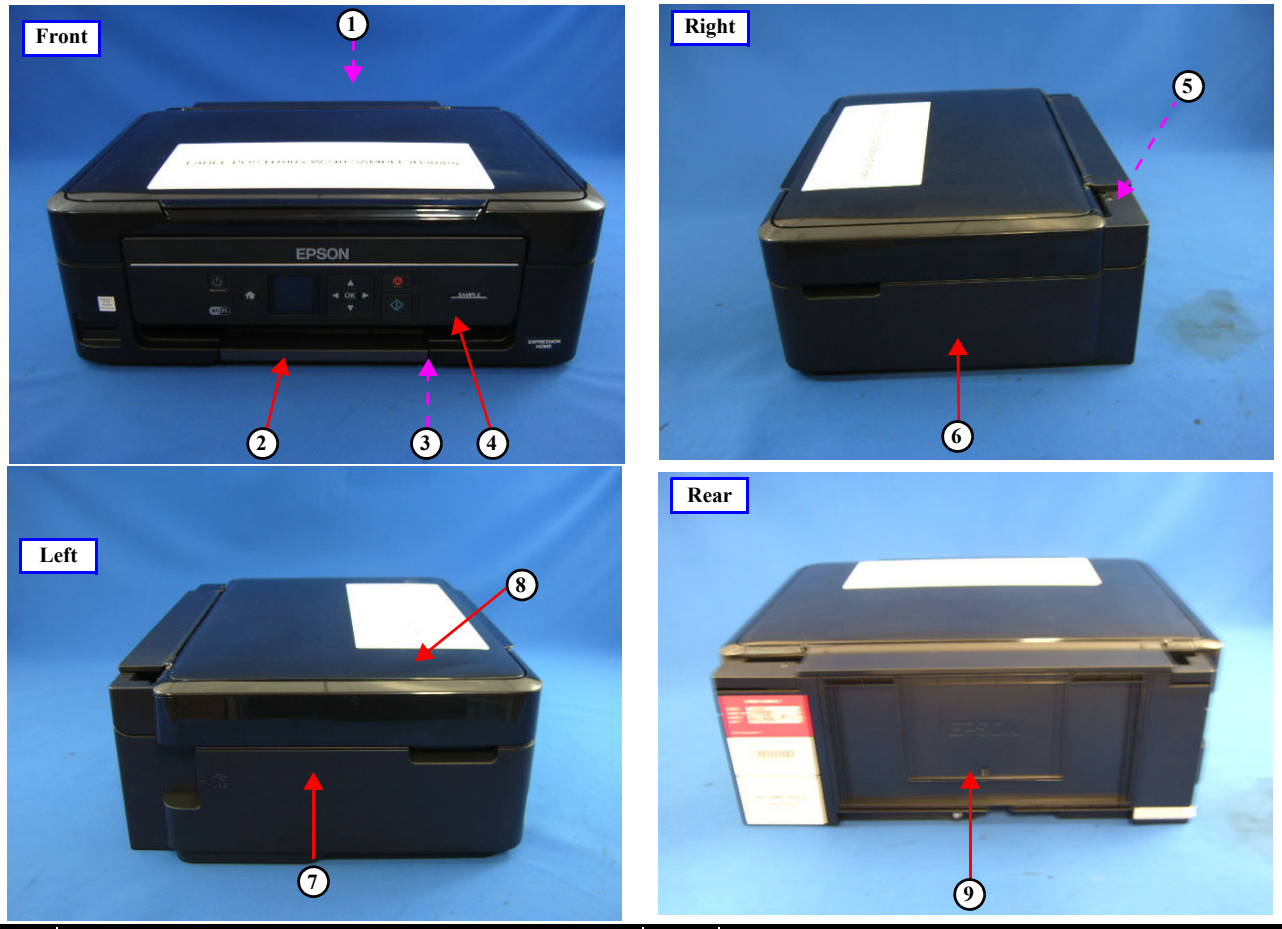
Figure 2-1. Making the Spring Hook Jig

2.1.3 Locations of the Parts/Units

This section shows the locations of the main parts/units of this product.

The parts/units which can not be seen in the following pictures are indicated in dotted lines (- - →).

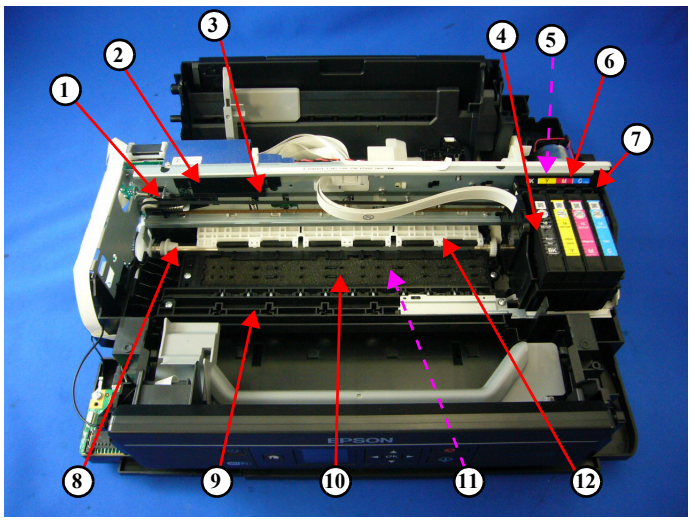
☐ Exterior parts



No.	Name	No.	Name
1	Housing Rear (p35)	5	Hinge (p38) (Separated Scanner and Panel type only)
2	Tray Front Assy (p35)	6	Housing Right (p38)
3	Frame Base Assy (p37)	7	Housing Left (p35)
4	Panel Unit • LCD & Button type (p 37) Panel Board (p40) / Panel Buttons (p40) / LCD (p40) / Panel Housing Upper Assy (p40) / Panel Housing Lower Assy (p40) • No LCD type (p 37) Panel Board Assy (p40) / Panel Buttons (p40) / Panel Housing Upper Assy (p40) / Panel Housing Lower Assy (p40) • Touch Panel type (p 37) Panel Board w/ Touch Panel (p40)/Panel Housing Upper Assy (p40)/Panel Housing Lower Assy (p40)	8	Scanner Unit (p35) • Separated Scanner and Panel type (p 38) Scanner Housing Upper (p38) / Scanner Carriage Unit (p38) / Scanner Housing Lower (p38) / CIS Module Unit (p38) / Scanner Motor (p38) • Integrated Scanner and Panel type (p 39) Scanner Stand/Torsion Spring16.76 (p36) / Panel Unit (p36) / Panel FFC (p39) / Scanner Housing Upper (p39) / Scanner Carriage Unit (p39) / Scanner Housing Lower (p39) / CIS Module Unit (p39) / Scanner Motor (p39)
		9	Paper Support Assy (p35)

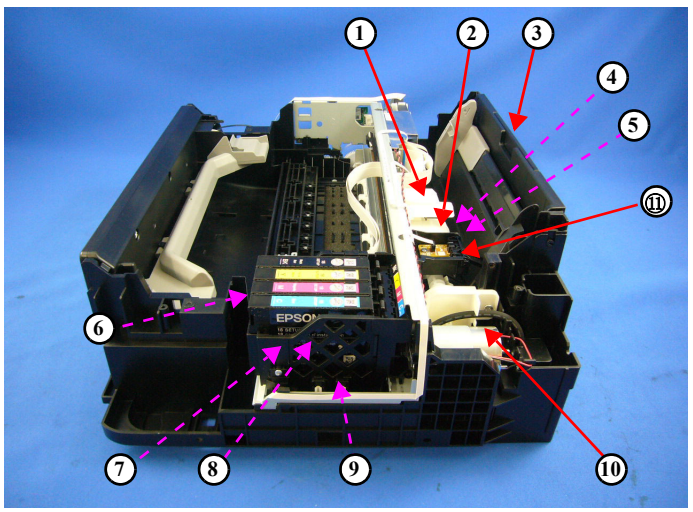
Figure 2-2. Exterior Parts

☐ Printer mechanism



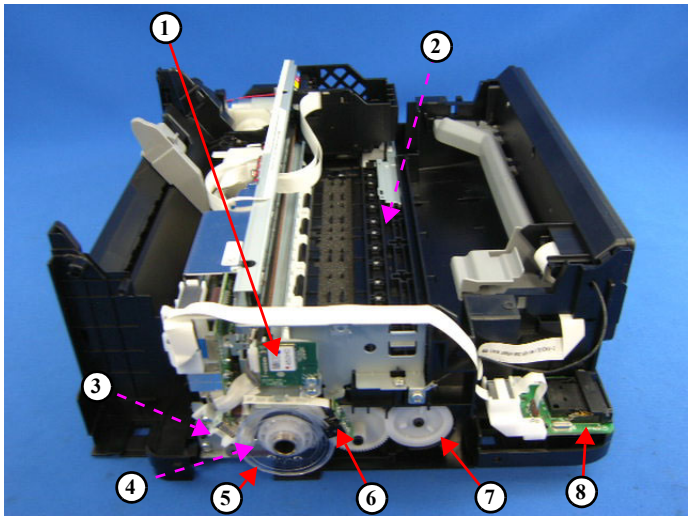
No.	Name	No.	Name
1	CR Driven Pulley Assy (p37)	7	CR Unit (p41)
2	CR Scale (p37)	8	PF Roller Unit (p41)
3	CR Timing Belt (p41)	9	Star Wheel Holder Assy (p38)
4	Printhead (p35)	10	Paper Guide Front Unit (p35)
5	CR Encoder Sensor (p41)	11	Paper Guide Lower Porous Pad (p35)
6	Holder Board Assy (p35)	12	Paper Guide Upper Assy (p41)

Figure 2-3. Printer Mechanism: Front



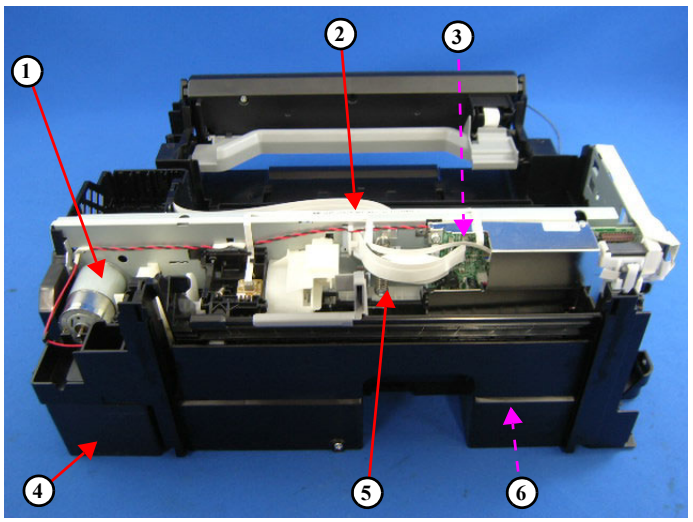
No.	Name	No.	Name
1	LD Roller Cover (p37)	7	Cap Lever (p38)
2	LD Roller Assy (p37)	8	Cap Assy (p38)
3	Hopper (p37)	9	Porous Pad for Cap Assy (p38)
4	Retard Roller Assy (p35)	10	Pump Unit (p41)
5	Paper Back Lever (p35)	11	Paper Sensor Unit (p41)
6	PIS Board Assy (p35)		

Figure 2-4. Printer Mechanism: Right



No.	Name	No.	Name
1	Wireless LAN Module (p35) (Model with wireless LAN only)	5	PF Scale (p38)
2	EJ Roller (p38)	6	PF Encoder Sensor (p38)
3	PF Motor Assy (p41)	7	EJ Roller Gear (p35)
4	PF Timing Belt (p38)	8	Card Slot Board (p35) (Model with Card slot only)

Figure 2-5. Printer Mechanism: Left



No.	Name	No.	Name
1	CR Motor (p37)	4	Waste Ink Pad Assy (p35)
2	Head FFC (p41)	5	PE Sensor Lever (p37)
3	Main Board (p37)	6	PS Unit (p35)

Figure 2-6. Printer Mechanism: Rear

2.1.4 Standard Operation Time for Servicing the Product

The following are the standard operation time for servicing the product. This standard operation time was determined with the MTTR result measured using the prototype of XP-302 series which have the most functions. For other models described in this manual, perform the repair work referring to this standard operation time though the time varies due to the structural difference between models.

The underlined parts/units are supplied as After Service Parts.

Table 2-1. Standard Operation Time

Parts/Unit	Time (mm:ss)		
	Replacement	Adjustment/ inspection	
Housing Rear	0:36	1:31	2:07
Paper Support Assy	0:12	---	0:12
Tray Front Assy	0:13	---	0:13
Document Cover	0:10	---	0:10
PIS Shield Plate A	0:30	---	0:30
PIS Shield Plate B	3:27	---	3:27
PIS FFC	2:33	---	2:33
PIS Board Assy	0:38	---	0:38
Star Wheel Holder Assy	1:57	3:18	5:15
Paper Guide Front Unit	0:37	7:44	8:21
Paper Guide Lower Porous Pad	0:46	0:45	1:31
FFC Cover Outer	0:17	---	0:17
Holder Board Assy	1:11	---	1:11
Print Head	2:49	17:39	20:28
Waste Ink Pad Assy	0:29	0:45	1:14
Paper Back Lever	1:39	---	1:39
Retard Roller Assy	1:47	0:47	2:34
Scanner Unit	1:33	2:52	4:25
Scanner Housing Upper	3:04	---	3:04
CIS Module Unit	4:17	---	4:17
Spacer	3:41	---	3:41
CIS Module	3:41	---	3:41
Scanner Carriage Unit	3:13	---	3:13
Scanner Carriage	3:13	---	3:13
Scanner Motor	3:13	---	3:13
CIS Holder Unit	4:17	---	4:17
Scanner Housing Lower	4:17	---	4:17
Housing Left	2:31	---	2:31
PS Unit	3:00	1:28	4:28
Card Slot Board	3:27	---	3:27
Wireless LAN Module	3:17	---	3:17
PF Encoder Sensor	3:07	---	3:07
PF Scale	3:22	---	3:22
PF Driven Pulley Assy	3:57	1:10	5:07
PF Timing Belt	4:09	1:10	5:19

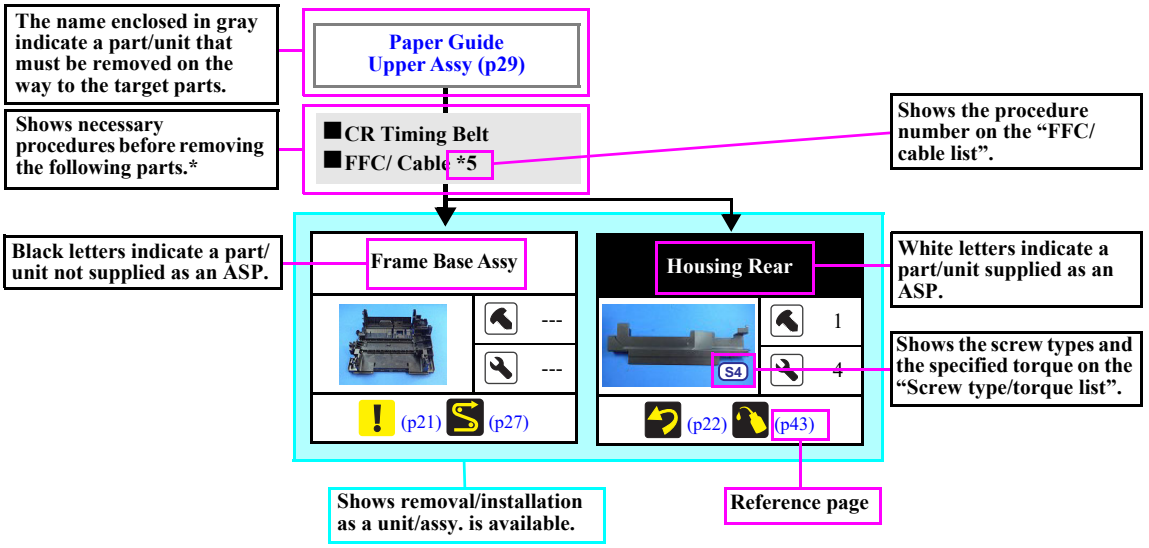
Table 2-1. Standard Operation Time

Parts/Unit		Time (mm:ss)		
		Replacement	Adjustment/ inspection	
EJ Roller Gear		2:45	---	2:45
EJ Roller		3:27	3:18	6:45
Hinge		1:49	---	1:49
Housing Right		2:03	---	2:03
Cap Assy		3:03	---	3:03
Porous Pad for Cap Assy		3:10	---	3:10
Cap Lever		3:19	---	3:19
Panel Unit		4:19	---	4:19
Panel Housing Lower Assy		7:32	---	7:32
Panel Board Assy		8:01	---	8:01
Panel Board		9:20	---	9:20
LCD		8:34	---	8:34
Panel Buttons		11:21	---	11:21
Panel Housing Upper Assy		11:21	---	11:21
CR Scale		3:53	---	3:53
LD Roller Cover		3:50	---	3:50
LD Roller Assy		4:24	0:47	5:11
Hopper		3:53	6:03	9:56
Shield Plate		7:04	---	7:04
PE Sensor Lever		8:34	0:47	9:21
Main Board	EEPROM Data Copy OK	7:45	10:22	18:07
	EEPROM Data Copy NG	7:45	27:58	35:43
CR Motor		7:52	1:00	8:52
CR Driven Pulley Assy		3:38	3:07	6:45
Main Frame Assy		7:56	11:16	19:12
Paper Guide Upper Assy		14:02	7:21	21:23
CR Unit		12:41	9:52	22:33
CR Timing Belt		12:55	0:40	13:35
CR Encoder Sensor		13:02	---	13:02
FFC Holder		13:09	---	13:09
Head FFC		13:09	---	13:09
Frame Base Assy		7:56	---	7:56
Pump Unit		9:42	---	9:42
PF Grounding Spring		9:56	---	9:56
Spur Gear 16.5		9.58	---	9:58
PF Roller Unit		10:24	5:51	16:15
PF Motor Assy		11:04	1:08	12:12
Frame Base		11:04	6:53	17:57

2.2 Disassembly/Reassembly Procedures

This section describes procedures for disassembling the parts/units in a flowchart format. For some parts/units, detailed procedures or precautions are provided (accordingly indicated by icons and cell's color). Refer to the explanations in the example chart below and perform an appropriate disassembling and assembling procedure. (See "2.3 Detailed Disassembly/Reassembly Procedure for each Part/Unit (p43)".)
For routing cables, see "2.4 Routing FFCs/cables (p52)".

The example below shows how to see the charts on the following pages.


The name enclosed in gray indicate a part/unit that must be removed on the way to the target parts.
Paper Guide Upper Assy (p29)
Shows necessary procedures before removing the following parts.*
CR Timing Belt
FFC/ Cable *5
Shows the procedure number on the "FFC/ cable list".
Black letters indicate a part/ unit not supplied as an ASP.
Frame Base Assy
Housing Rear
White letters indicate a part/unit supplied as an ASP.

1
S4
4
Shows the screw types and the specified torque on the "Screw type/torque list".
(p21)
(p27)
(p22)
(p43)
Shows removal/installation as a unit/assy. is available.
Reference page

Note "*": The box with only part names means the removal of the parts. If the name of FFC or a cable is shown, disconnect the FFC or cable from the connector.

Item		Description	Reference
Parts/unit name	White-letter	Part/unit supplied as an ASP	---
	Black-letter	Part/unit not supplied as an ASP	---
Icon		Indicates a practice or condition that could result in injury or loss of life if not strictly observed.	Indicates the reference page in blue-letter
		Indicates a practice or condition that could result in damage to, or destruction of equipment if not strictly observed.	Indicates the reference page in blue-letter
		Indicates the parts that are inevitably broken in the disassembling procedure, and should be replaced with a new one for reassembly.	Indicates the reference page in blue-letter
		Indicates necessary check items in the disassembling/ assembling procedure.	Indicates the reference page in blue-letter
		Indicates supplementary explanation for disassembly is given.	Indicates the reference page in blue-letter
		Indicates particular tasks to keep quality of the units are required.	Indicates the reference page in blue-letter
		Indicates particular routing of cables is required.	Indicates the reference page in blue-letter
		Indicates particular adjustment(s) is/are required.	Chapter 3 " Adjustment (p56)"
		Indicates lubrication is required.	Chapter 4 " Maintenance (p73)"
		Indicates the number of screws securing the parts/ units.	---
		Indicates the points secured with other than a screw such as a hook, rib, dowel or the like.	---

2.2.1 Disassembly Flowchart

XP-430 / 231 / 330 / 432 / 235 / 332 / 440 / 240 /340 / 442 / 245 / 342 / 452 / 255 / 352 / 2100 / 2200 series described in this manual have differences in their structure because the same printer mechanism is used for some of them and the composition of housings or functions differs.

The functions and differences according to the models are as follows.

Table 2-2. Function List According to Models

Item		XP-432/ XP-442/ XP-452 series	XP-430/ XP-440 series	XP-332/ XP-342/ XP-352 series	XP-330/ XP-340 series	XP-231 series	XP-235 series	XP-240/ XP-2100_2200 series	XP-245/ XP-255 series
Scanner	Separated Scanner and Panel type	O	O	O	O	---	---	---	---
	Integrated Scanner and Panel type	---	---	---	---	O	O	O	O
Panel	Location	Frame Base	Frame Base	Frame Base	Frame Base	Scanner Unit	Scanner Unit	Scanner Unit	Scanner Unit
	Type	Sheet Panel & Button	Sheet Panel & Button	Button	Button	Button	Button	Button	Button
	LCD	2.7inch	2.7inch	1.4inch	1.4inch	---	---	---	---
Printhead		F2	F2	F2	F2	O2	O2	F2	F2
Card Slot		O	O	O	O	---	---	---	---
Wireless LAN		O	O	O	O	O	O	O	O
Paper Sensor		O	O	O	O	---	---	---	---
Disassembly Flowchart Start Position		p 35	p 35	p 35	p 35	p 35	p 35	p 35	p 35

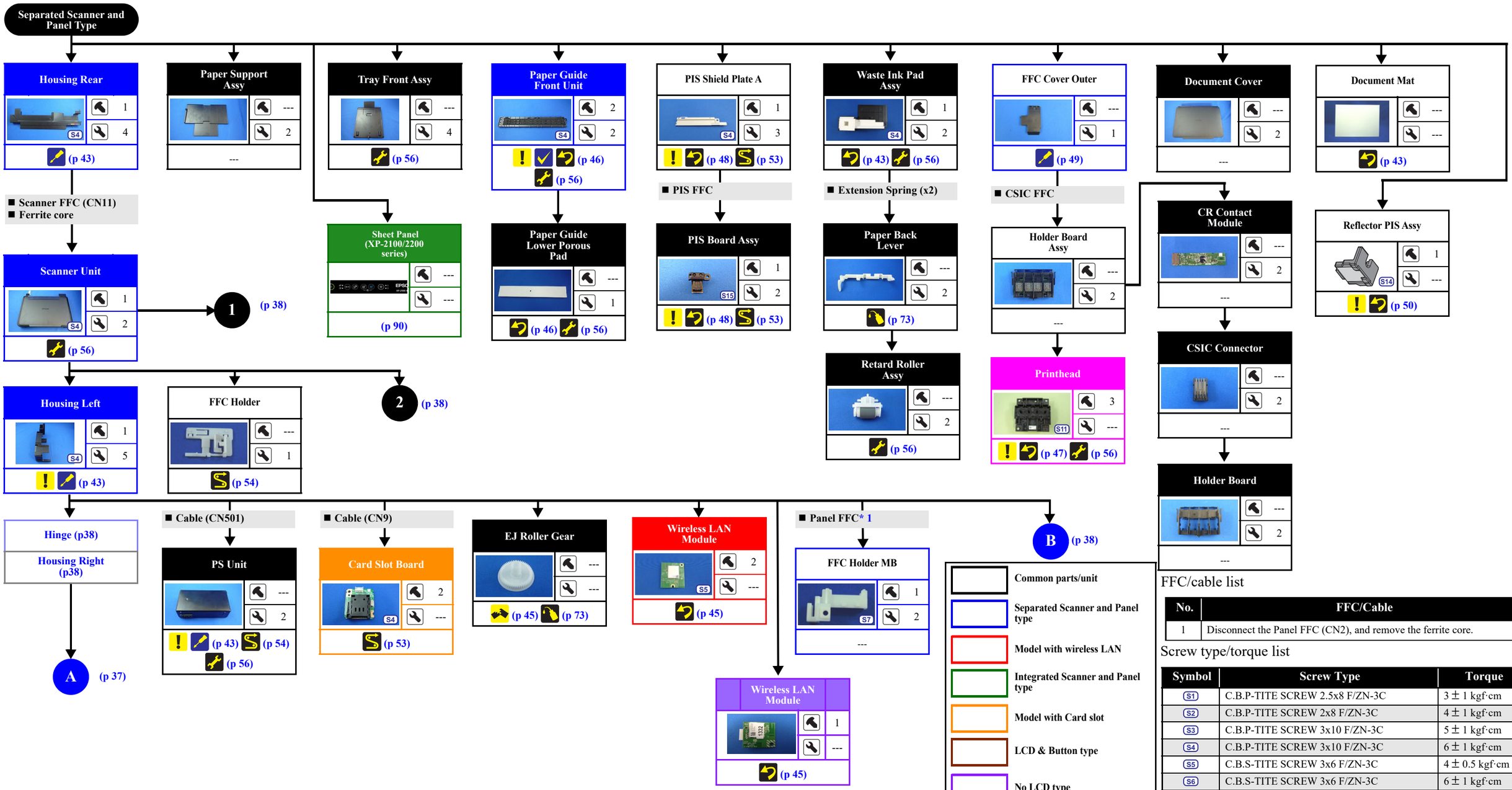
Table 2-3. Components According to Functions

Item	Specification
Scanner	The shape and unit of components below differ due to the difference of specifications of Scanner Unit. • Scanner Unit • Hinge • Scanner Stand/Torsion Spring16.76 • Housing Rear/Left/Right • Main Board • CR Driven Pulley Assy • Paper Guide Front Unit
Panel	The shape and unit of components below differ due to the difference of specifications of Panel Unit. • Panel Unit
Printhead	The shape and unit of components below differ due to the difference of specifications of Printhead. • Printhead • CR Unit • FFC Cover Outer • FFC Cover Inner
Card Slot	The following part is not mounted on the models without the Card Slot • Card Slot Board
Paper Sensor	The following part is not mounted on the models without the Paper Sensor. • Paper Sensor

Therefore, parts and units are colored and classified into 10 types in the flowchart given in this section.

- Common parts/unit: Black
- Separated Scanner and Panel type: Blue
- Model with wireless LAN: Red
- Integrated Scanner and Panel type: Green
- Model with Card slot: Orange
- LCD & Button type: Brown

- No LCD type: Mauve
- Sheet Panel type: Gray
- Printhead type: F2: Magenta
- Printhead type: O2: Light blue
- Model with Paper Sensor: Light Mauve



The following parts can be replaced without removing the Scanner Unit. However, the working space for replacement is narrow and dark. Therefore, if you find it difficult to work, remove the Scanner Unit first before replacement.

- Printhead/Holder Board Assy
- PIS Board Assy/PIS Shield Plate A
- Paper Guide Front Unit/Paper Guide Lower Porous Pad

Common parts/unit
Separated Scanner and Panel type
Model with wireless LAN
Integrated Scanner and Panel type
Model with Card slot
LCD & Button type
No LCD type
Touch Panel type
Printhead type: F2
Printhead type: O2
FY15 Product

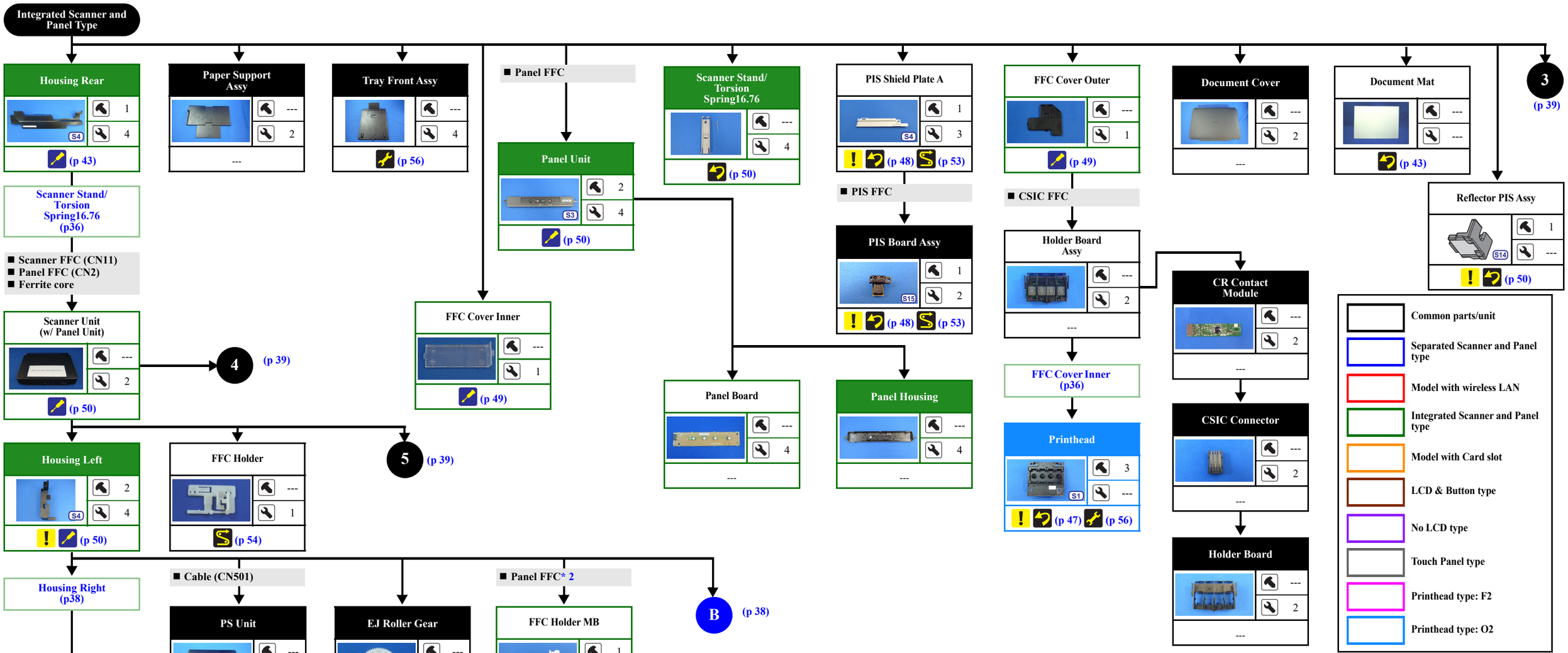
FFC/cable list

No.	FFC/Cable
1	Disconnect the Panel FFC (CN2), and remove the ferrite core.

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	3 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x10 F/ZN-3C	5 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S5	C.B.S-TITE SCREW 3x6 F/ZN-3C	4 ± 0.5 kgf·cm
S6	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S7	C.B.S-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S8	C.P SCREW 3x4 F/ZN-3C	4 ± 1 kgf·cm
S9	C.P.F.B-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S10	C.P.S-TITE (P2) SCREW 3x6 F/ZN-3C	7 ± 1 kgf·cm
S11	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	5 ± 0.5 kgf·cm
S12	C.P SCREW 2.6x3 F/ZN-3C	4 ± 0.5 kgf·cm
S13	C.B.S-TITE SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S14	C.B.P-TITE SCREW 2x8 F/ZN	2 ± 0.5 kgf·cm
S15	C.B.P-TITE SCREW 2x8 F/ZN	25 ± 0.5 kgf·cm

Flowchart 2-1. Disassembly Flowchart (1)



The following parts can be replaced without removing the Scanner Unit. However, the working space for replacement is narrow and dark. Therefore, if you find it difficult to work, remove the Scanner Unit first before replacement.

- **Printhead/Holder Board Assy**
- **PIS Board Assy/PIS Shield Plate A**
- **Paper Guide Front Unit/Paper Guide Lower Porous Pad**

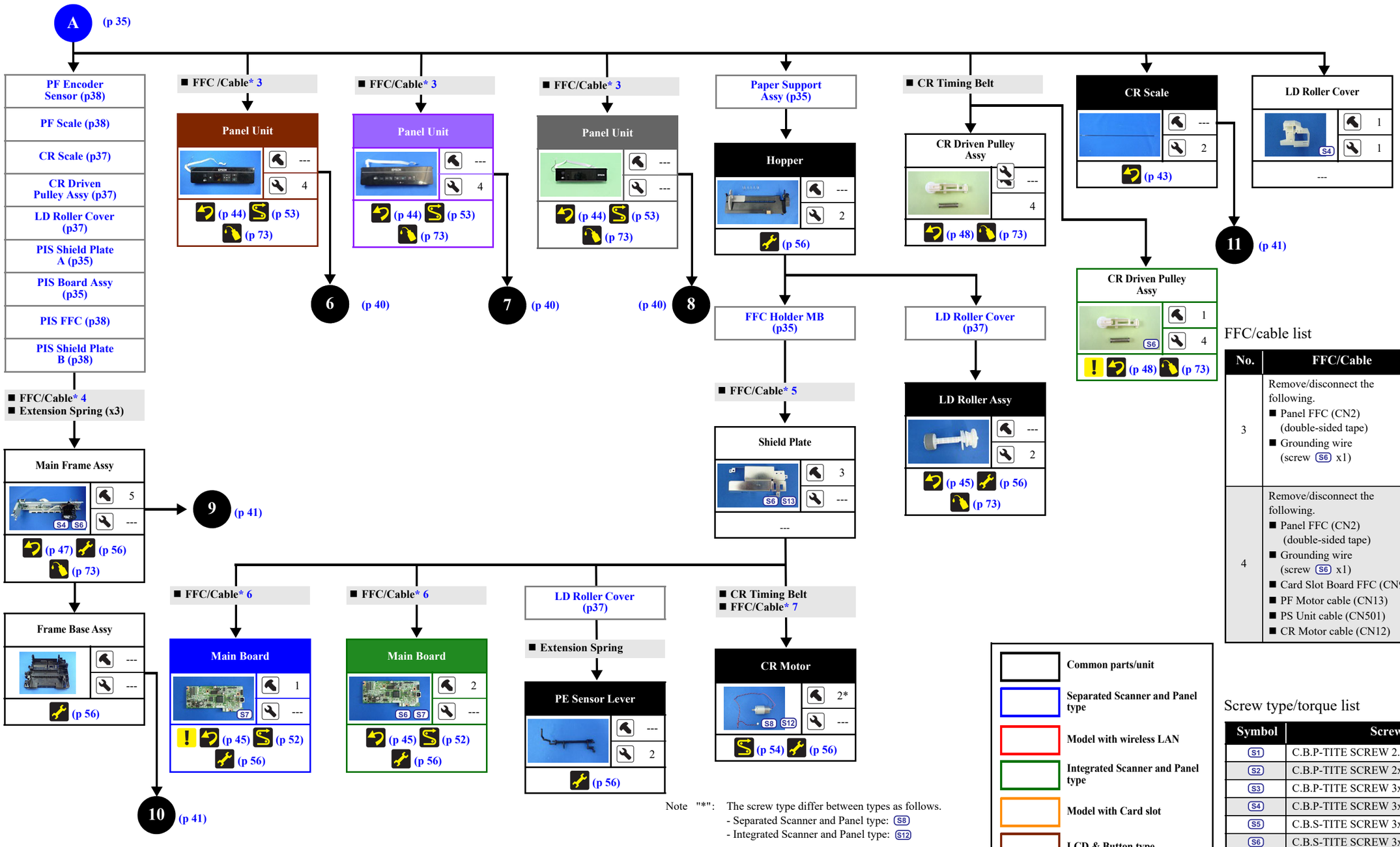
FFC/cable list

No.	FFC/Cable
2	Disconnect the Panel FFC (CN2), and remove the ferrite core.

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	3 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x10 F/ZN-3C	5 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S5	C.B.S-TITE SCREW 3x6 F/ZN-3C	4 ± 0.5 kgf·cm
S6	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S7	C.B.S-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S8	C.P SCREW 3x4 F/ZN-3C	4 ± 1 kgf·cm
S9	C.P.F.B-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S10	C.P.S-TITE (P2) SCREW 3x6 F/ZN-3C	7 ± 1 kgf·cm
S11	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	5 ± 0.5 kgf·cm
S12	C.P SCREW 2.6x3 F/ZN-3C	4 ± 0.5 kgf·cm
S13	C.B.S-TITE SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S14	C.B.P-TITE SCREW 2x8 F/ZN	2 ± 0.5 kgf·cm
S15	C.B.P-TITE SCREW 2x8 F/ZN	25 ± 0.5 kgf·cm

Flowchart 2-2. Disassembly Flowchart (2)



Note "*": The screw type differ between types as follows.
- Separated Scanner and Panel type: S8
- Integrated Scanner and Panel type: S12

When the CR Unit or the Head FFC is removed from the Main Frame Assy, remove the following parts before removing the Main Frame Assy.
- **FFC Cover Inner (Integrated Scanner and Panel type only)**
- **FFC Cover Outer**
- **Holder Board Assy**
- **Printhead**

Flowchart 2-3. Disassembly Flowchart (3)

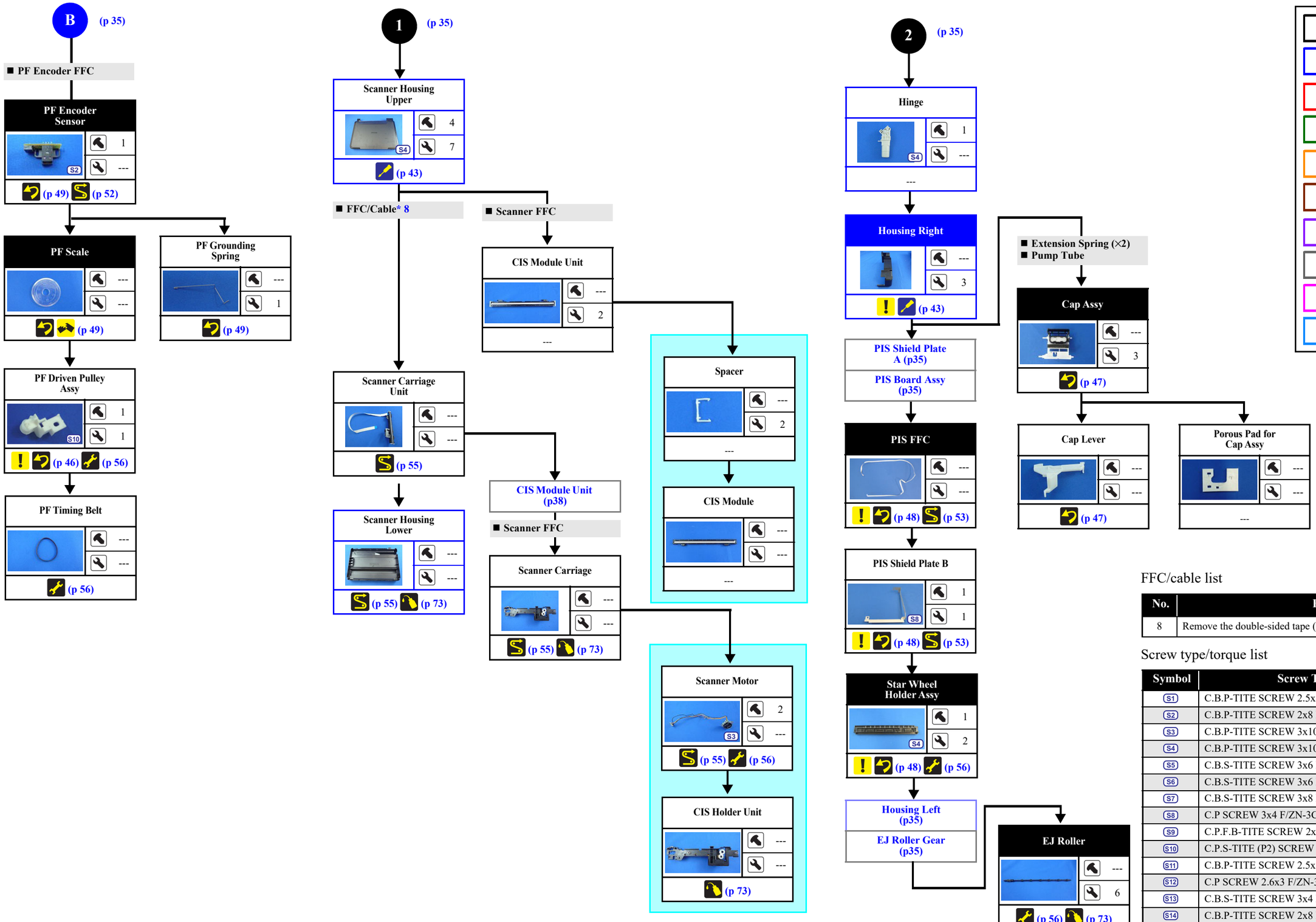
- Common parts/unit
- Separated Scanner and Panel type
- Model with wireless LAN
- Integrated Scanner and Panel type
- Model with Card slot
- LCD & Button type
- No LCD type
- Touch Panel type
- Printhead type: F2
- Printhead type: O2

FFC/cable list

No.	FFC/Cable	No.	FFC/Cable
3	Remove/disconnect the following. ■ Panel FFC (CN2) (double-sided tape) ■ Grounding wire (screw S6 x1)	5	Remove/disconnect the following. ■ Head FFC (CN102) ■ CSIC FFC (CN6) ■ PF Motor cable (CN13) ■ PS Unit cable (CN501) ■ PIS FFC (CN5)
4	Remove/disconnect the following. ■ Panel FFC (CN2) (double-sided tape) ■ Grounding wire (screw S6 x1) ■ Card Slot Board FFC (CN9) ■ PF Motor cable (CN13) ■ PS Unit cable (CN501) ■ CR Motor cable (CN12)	6	Remove/disconnect all FFCs/ cables.
		7	Release the CR Motor cable from the hooks of the Main Frame and Frame Base.

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	3 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x10 F/ZN-3C	5 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S5	C.B.S-TITE SCREW 3x6 F/ZN-3C	4 ± 0.5 kgf·cm
S6	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S7	C.B.S-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S8	C.P SCREW 3x4 F/ZN-3C	4 ± 1 kgf·cm
S9	C.P.F.B-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S10	C.P.S-TITE (P2) SCREW 3x6 F/ZN-3C	7 ± 1 kgf·cm
S11	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	5 ± 0.5 kgf·cm
S12	C.P SCREW 2.6x3 F/ZN-3C	4 ± 0.5 kgf·cm
S13	C.B.S-TITE SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S14	C.B.P-TITE SCREW 2x8 F/ZN	2 ± 0.5 kgf·cm
S15	C.B.P-TITE SCREW 2x8 F/ZN	25 ± 0.5 kgf·cm



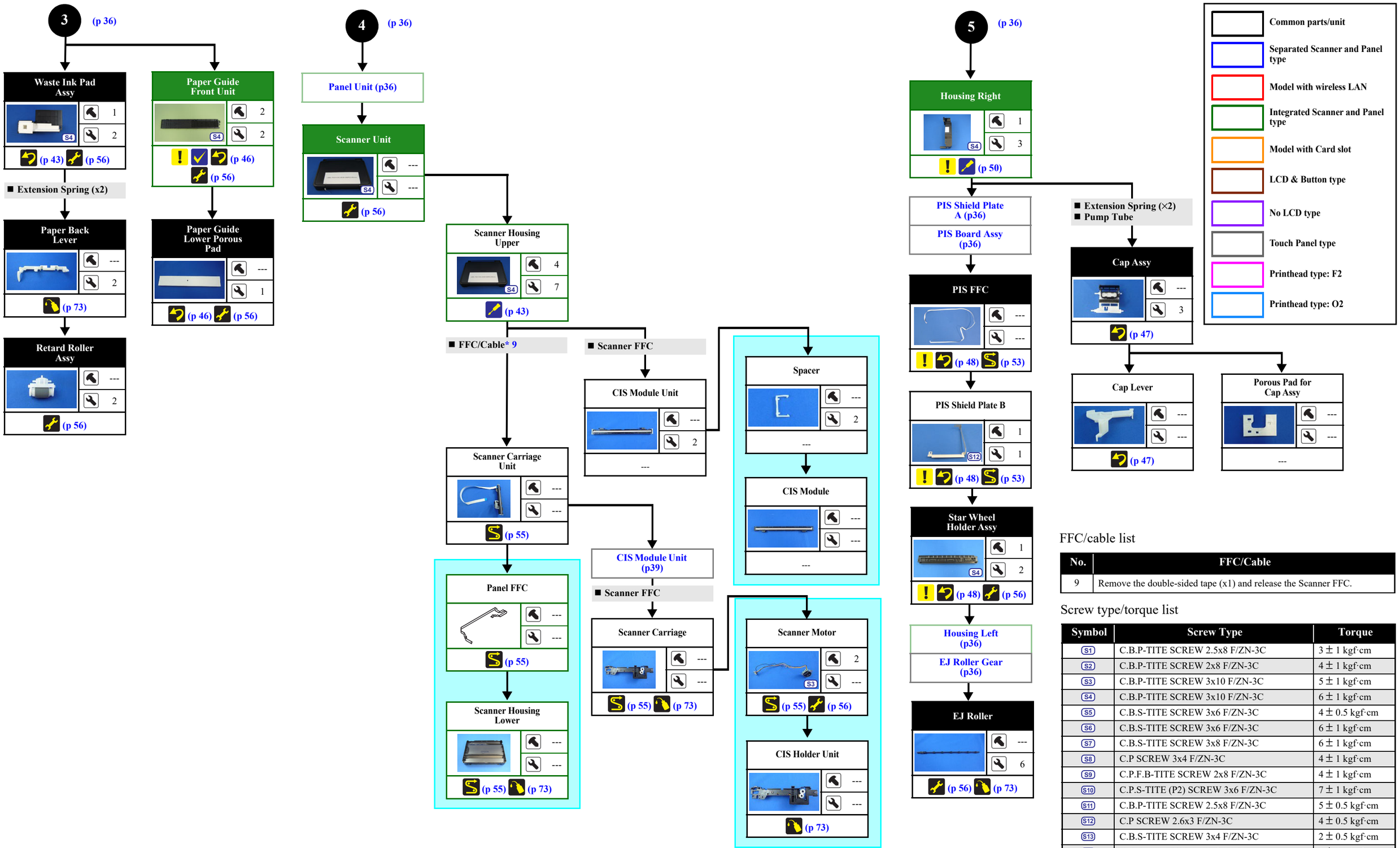
Flowchart 2-4. Disassembly Flowchart (4)

FFC/cable list

No.	FFC/Cable
8	Remove the double-sided tape (x1) and release the Scanner FFC.

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	3 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x10 F/ZN-3C	5 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S5	C.B.S-TITE SCREW 3x6 F/ZN-3C	4 ± 0.5 kgf·cm
S6	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S7	C.B.S-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S8	C.P SCREW 3x4 F/ZN-3C	4 ± 1 kgf·cm
S9	C.P.F.B-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S10	C.P.S-TITE (P2) SCREW 3x6 F/ZN-3C	7 ± 1 kgf·cm
S11	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	5 ± 0.5 kgf·cm
S12	C.P SCREW 2.6x3 F/ZN-3C	4 ± 0.5 kgf·cm
S13	C.B.S-TITE SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S14	C.B.P-TITE SCREW 2x8 F/ZN	2 ± 0.5 kgf·cm
S15	C.B.P-TITE SCREW 2x8 F/ZN	25 ± 0.5 kgf·cm



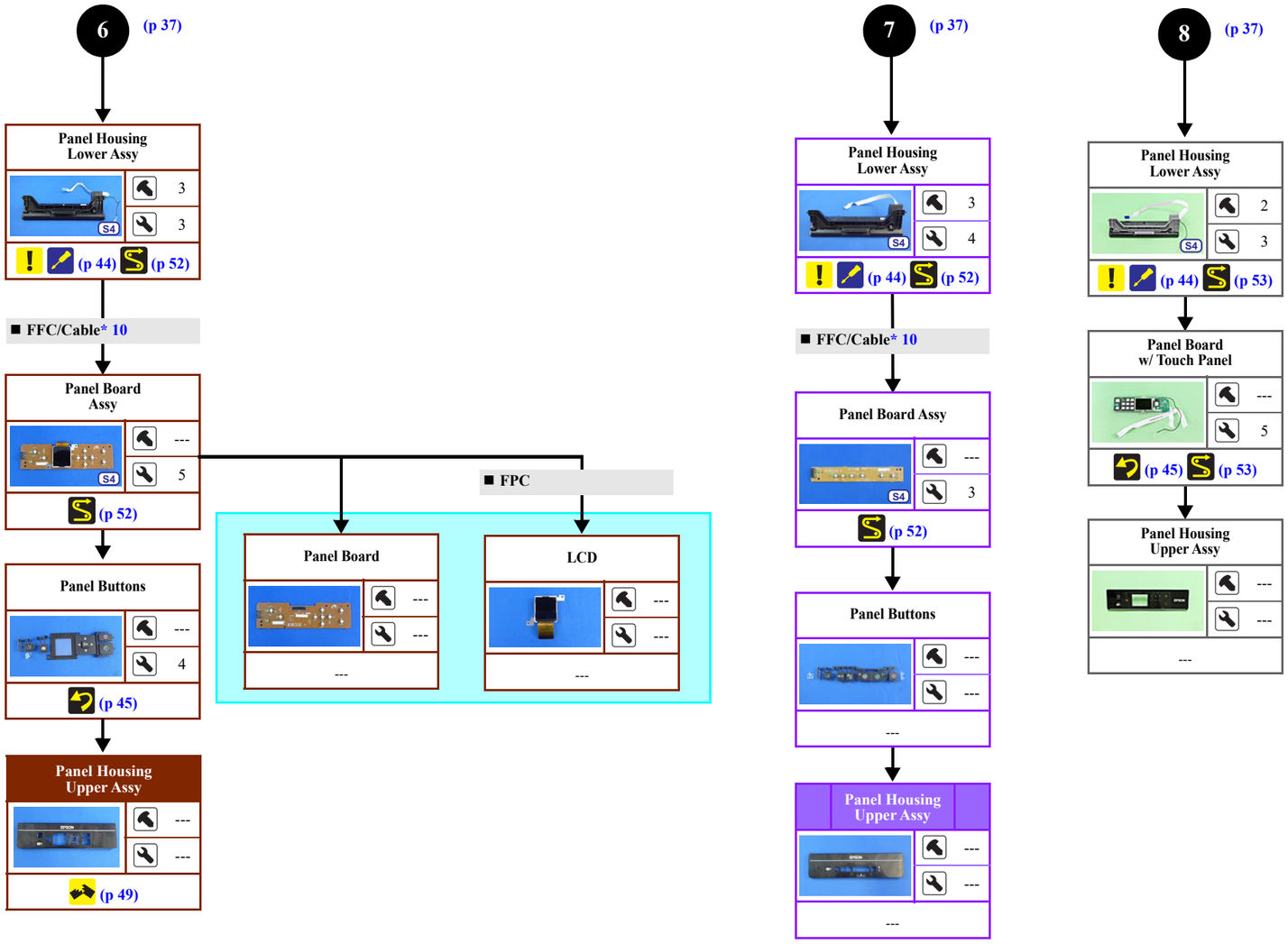
Flowchart 2-5. Disassembly Flowchart (5)

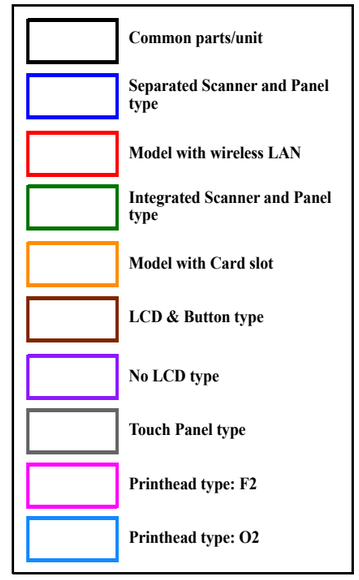
FFC/cable list

No.	FFC/Cable
9	Remove the double-sided tape (x1) and release the Scanner FFC.

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	3 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x10 F/ZN-3C	5 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S5	C.B.S-TITE SCREW 3x6 F/ZN-3C	4 ± 0.5 kgf·cm
S6	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S7	C.B.S-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S8	C.P SCREW 3x4 F/ZN-3C	4 ± 1 kgf·cm
S9	C.P.F.B-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S10	C.P.S-TITE (P2) SCREW 3x6 F/ZN-3C	7 ± 1 kgf·cm
S11	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	5 ± 0.5 kgf·cm
S12	C.P SCREW 2.6x3 F/ZN-3C	4 ± 0.5 kgf·cm
S13	C.B.S-TITE SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S14	C.B.P-TITE SCREW 2x8 F/ZN	2 ± 0.5 kgf·cm
S15	C.B.P-TITE SCREW 2x8 F/ZN	25 ± 0.5 kgf·cm





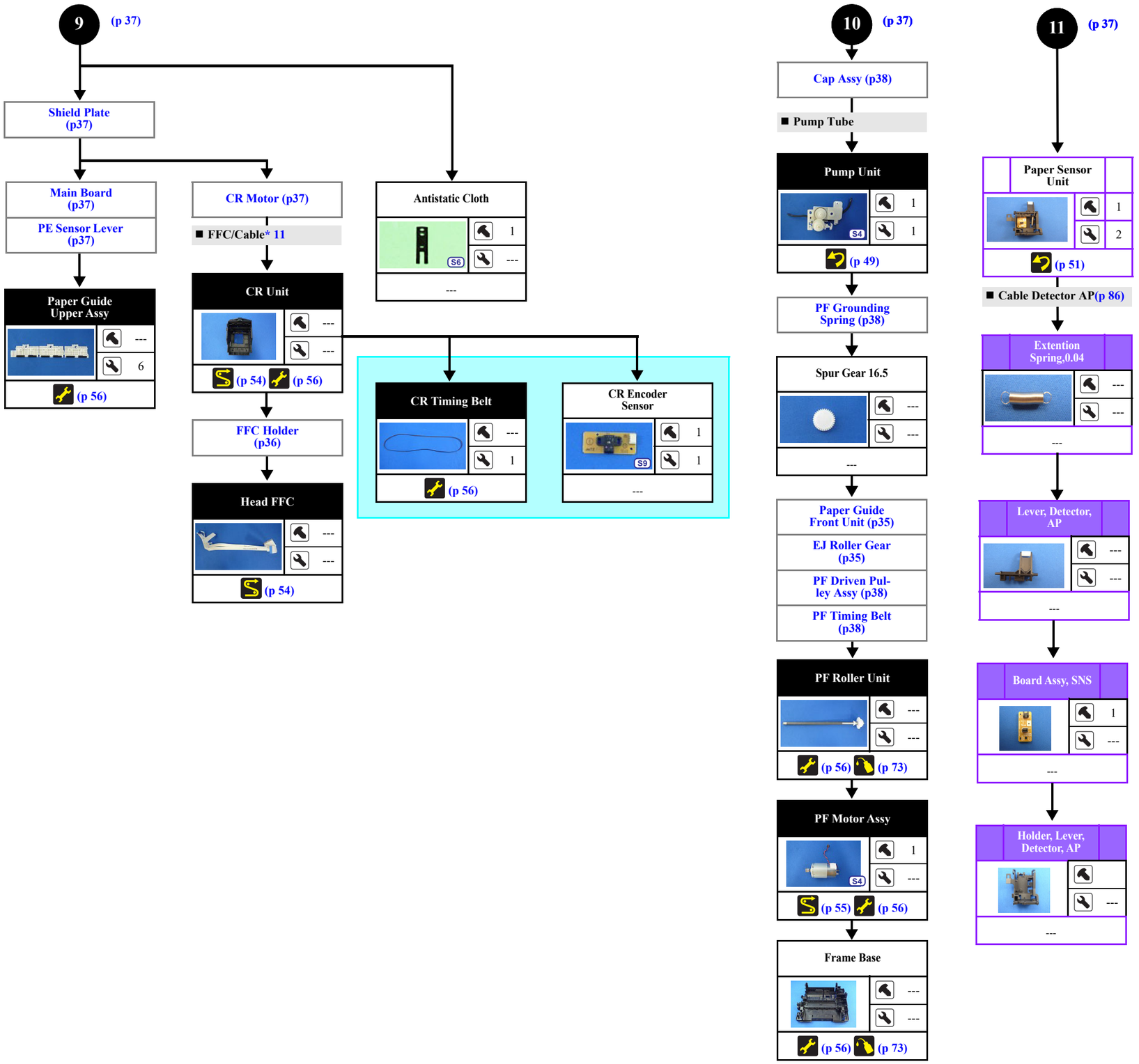
FFC/cable list

No.	FFC/Cable
10	■ Panel FFC (CN1) ■ Grounding wire (screw S4 x1)

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	3 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x10 F/ZN-3C	5 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S5	C.B.S-TITE SCREW 3x6 F/ZN-3C	4 ± 0.5 kgf·cm
S6	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S7	C.B.S-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S8	C.P SCREW 3x4 F/ZN-3C	4 ± 1 kgf·cm
S9	C.P.F.B-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S10	C.P.S-TITE (P2) SCREW 3x6 F/ZN-3C	7 ± 1 kgf·cm
S11	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	5 ± 0.5 kgf·cm
S12	C.P SCREW 2.6x3 F/ZN-3C	4 ± 0.5 kgf·cm
S13	C.B.S-TITE SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S14	C.B.P-TITE SCREW 2x8 F/ZN	2 ± 0.5 kgf·cm
S15	C.B.P-TITE SCREW 2x8 F/ZN	25 ± 0.5 kgf·cm

Flowchart 2-6. Disassembly Flowchart (6)



Common parts/unit
Separated Scanner and Panel type
Model with wireless LAN
Integrated Scanner and Panel type
Model with Card slot
LCD & Button type
No LCD type
Touch Panel type
Printhead type: F2
Printhead type: O2
Model with Paper Sensor

FFC/cable list

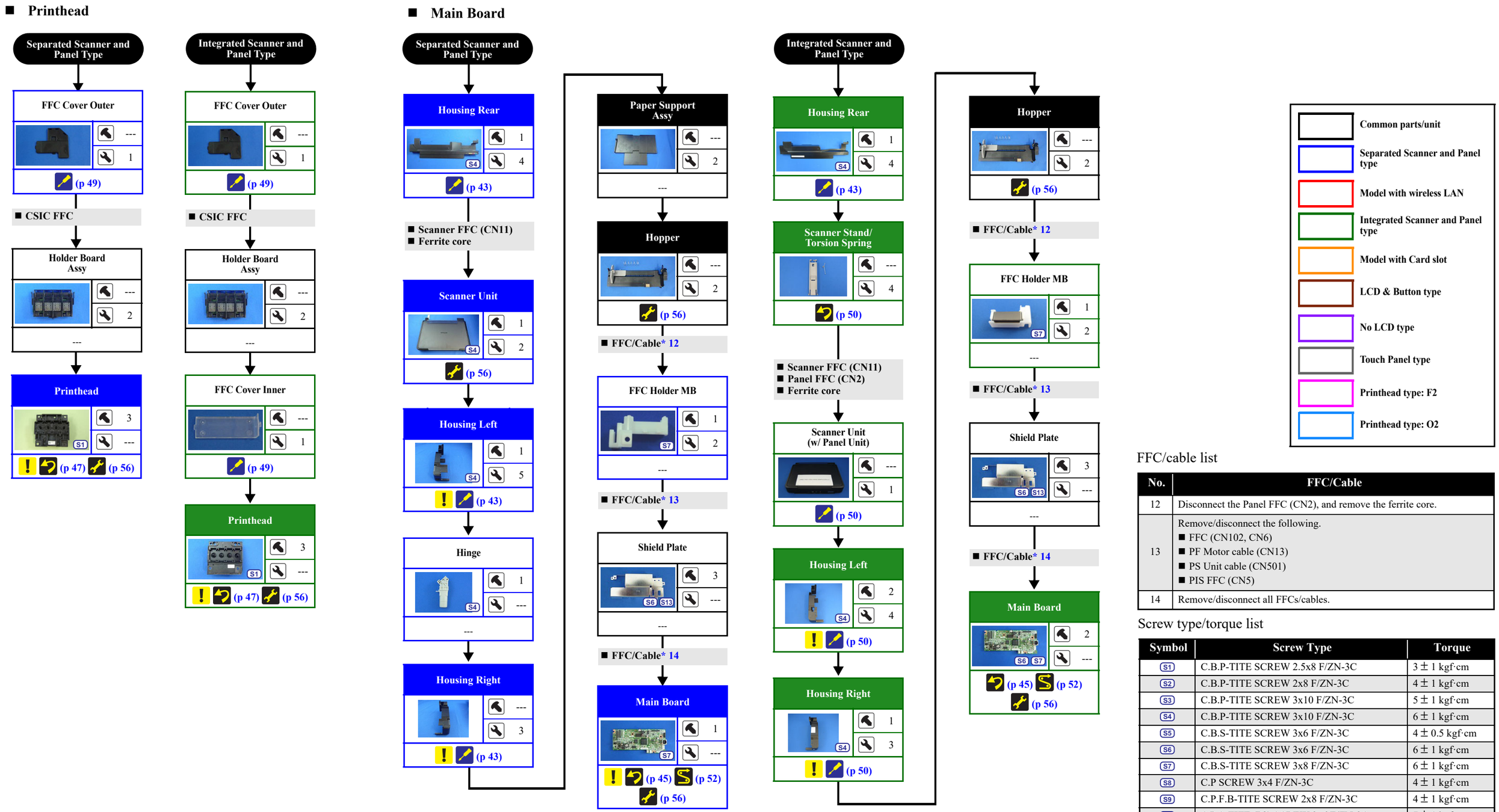
No.	FFC/Cable
11	■ Disconnect the CR Encoder FFC. ■ Pull out the Head FFC from the hole of the CR Unit.

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	3 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x10 F/ZN-3C	5 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S5	C.B.S-TITE SCREW 3x6 F/ZN-3C	4 ± 0.5 kgf·cm
S6	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S7	C.B.S-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S8	C.P SCREW 3x4 F/ZN-3C	4 ± 1 kgf·cm
S9	C.P.F.B-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S10	C.P.S-TITE (P2) SCREW 3x6 F/ZN-3C	7 ± 1 kgf·cm
S11	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	5 ± 0.5 kgf·cm
S12	C.P SCREW 2.6x3 F/ZN-3C	4 ± 0.5 kgf·cm
S13	C.B.S-TITE SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S14	C.B.P-TITE SCREW 2x8 F/ZN	2 ± 0.5 kgf·cm
S15	C.B.P-TITE SCREW 2x8 F/ZN	25 ± 0.5 kgf·cm

Flowchart 2-7. Disassembly Flowchart (7)

2.2.2 Disassembly Flowchart (Printhead/Main Board)



The Printhead can be replaced without removing the Scanner Unit. However, the working space for replacement is narrow and dark. Therefore, if you find it difficult to work, remove the Scanner Unit first before replacement.

Flowchart 2-8. Disassembly Flowchart (Printhead/Main Board)

FFC/cable list

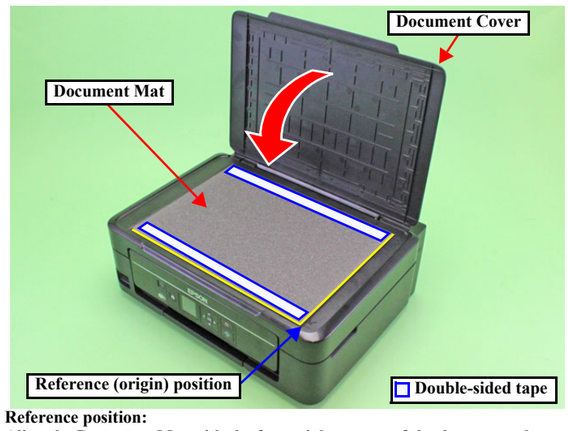
No.	FFC/Cable
12	Disconnect the Panel FFC (CN2), and remove the ferrite core.
13	Remove/disconnect the following. ■ FFC (CN102, CN6) ■ PF Motor cable (CN13) ■ PS Unit cable (CN501) ■ PIS FFC (CN5)
14	Remove/disconnect all FFCs/cables.

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	3 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x10 F/ZN-3C	5 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S5	C.B.S-TITE SCREW 3x6 F/ZN-3C	4 ± 0.5 kgf·cm
S6	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S7	C.B.S-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S8	C.P SCREW 3x4 F/ZN-3C	4 ± 1 kgf·cm
S9	C.P.F.B-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S10	C.P.S-TITE (P2) SCREW 3x6 F/ZN-3C	7 ± 1 kgf·cm
S11	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	5 ± 0.5 kgf·cm
S12	C.P SCREW 2.6x3 F/ZN-3C	4 ± 0.5 kgf·cm
S13	C.B.S-TITE SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S14	C.B.P-TITE SCREW 2x8 F/ZN	2 ± 0.5 kgf·cm
S15	C.B.P-TITE SCREW 2x8 F/ZN	25 ± 0.5 kgf·cm

2.3 Detailed Disassembly/Reassembly Procedure for each Part/Unit

Document Mat

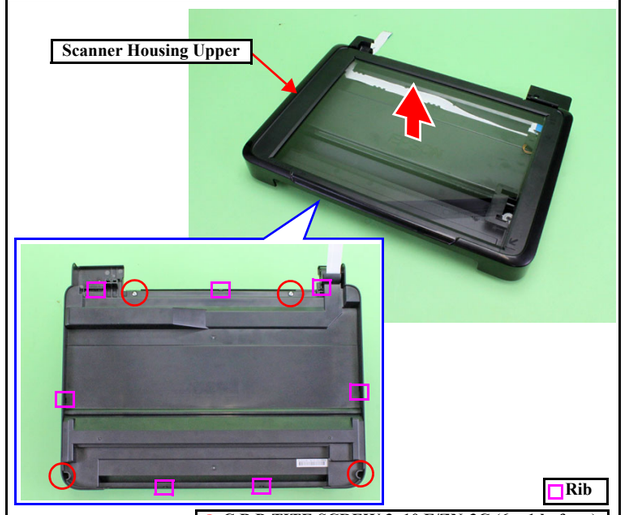


Reference position:
Align the Document Mat with the front right corner of the document glass.
Make sure the gap in yellow above must be less than 1 mm.

When attaching the Document Mat to the Document Cover, follow the procedure below.

1. Attach double-sided tape on the two long sides of the Document Mat.
2. Place the mat on the document glass with double-sided tape attachment side upward while aligning it with the reference position of the document glass shown above.
3. Close the Document Cover and press the cover to stick the Document Mat to the Document Cover.

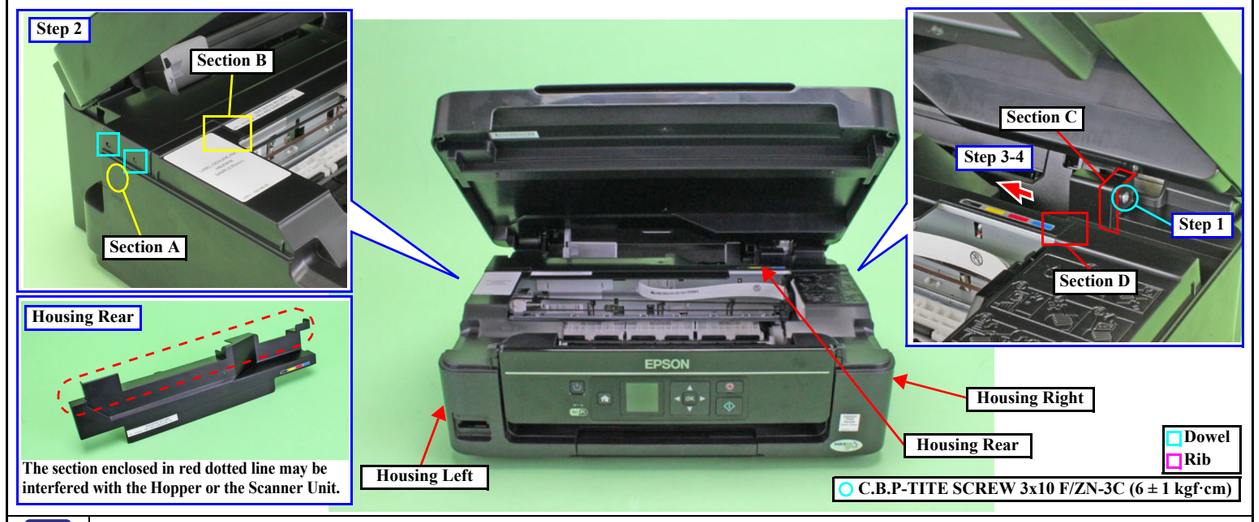
Scanner Housing Upper



When removing the Scanner Housing Upper from the Scanner Housing Lower Assy, follow the procedure below.

1. Remove the screws (x4) on the bottom of the Scanner Unit.
2. Release the ribs (x7) of the Scanner Housing Upper, and remove the Scanner Housing Upper in the direction of the arrow with the document glass upward.

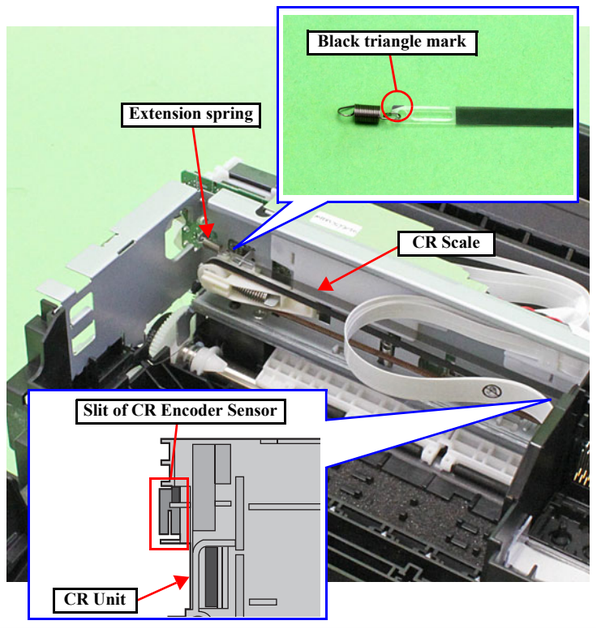
Housing Rear



When removing the Housing Rear, follow the procedure below.

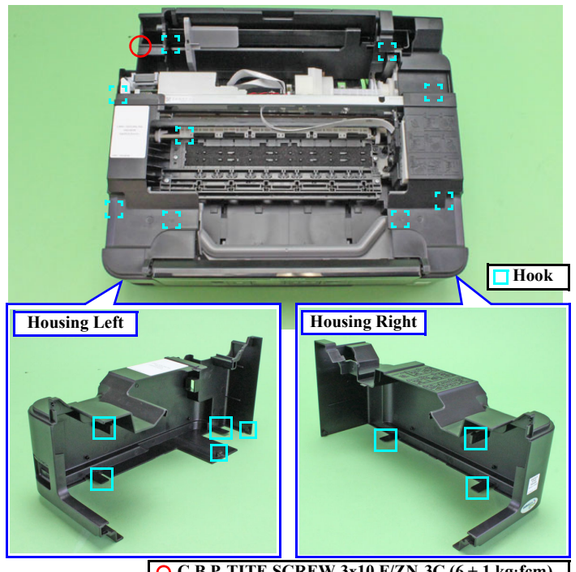
1. Remove the screw (x1) of the Housing Rear.
2. Press the section A on the Housing Left and release the dowels (x2) of the Housing Left from the Housing Rear, and lift the rear side of the Housing Rear slightly to release the section B from the Housing Left.
3. Pull and turn the section C of the Housing Rear slightly to the front to release it from the gap between the Housing Right and Frame Base.
4. Slide the Housing Rear in the direction of the arrow to release the section D, and remove the Housing Rear while avoiding the Hopper and Scanner Unit.

CR Scale



- Attach the CR Scale to the hook on the left of the Main Frame with the black triangle mark upward.
- Make sure to put the CR Scale through the slit of the CR Encoder Sensor.

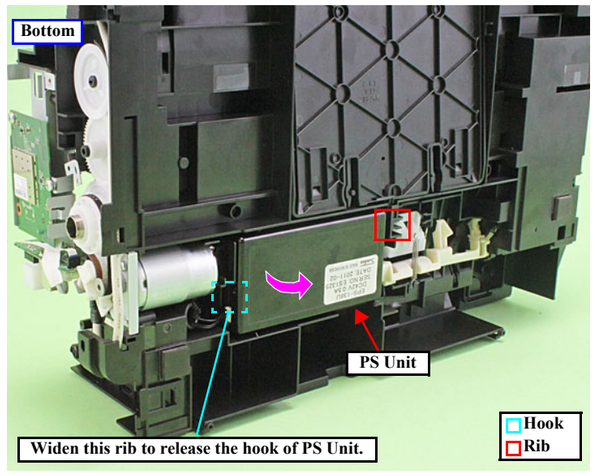
Housing Left/Housing Right (Separated Scanner and Panel Type)



When releasing the hooks (x7) of the Housing Left/Housing Right, be careful not to damage the hooks (x7).

Release the hooks shown above when removing the Housing Left/Housing Right.

PS Unit

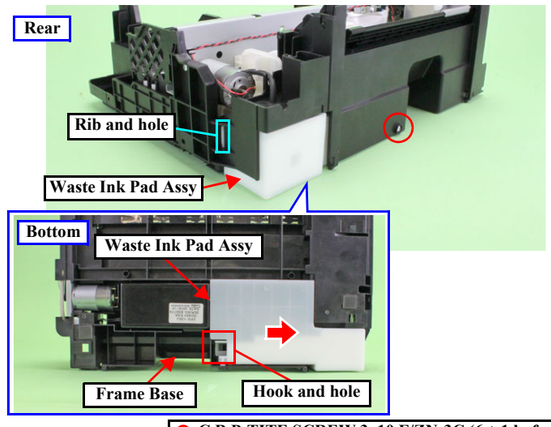


Be careful not to damage the rib of the Frame Base when widen the rib to release the hook of the PS Unit.

When removing the PS Unit, follow the procedure below.

1. Using a precision screwdriver or the like, widen the rib of the Frame Base to release the hook of the PS Unit.
2. Remove the PS Unit from the Frame Base in the direction of the arrow while releasing the rib of the PS Unit.
3. Disconnect the PS Unit cable from the connector on the PS Unit and remove the PS Unit.

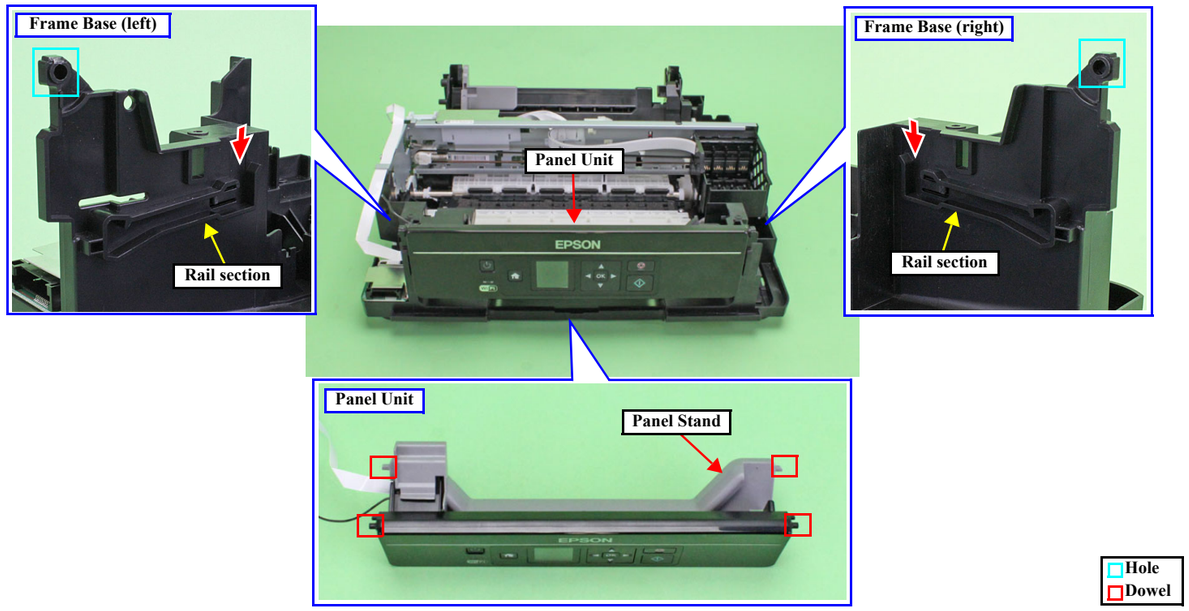
Waste Ink Pad Assy



When installing the Waste Ink Pad Assy, follow the procedure below.

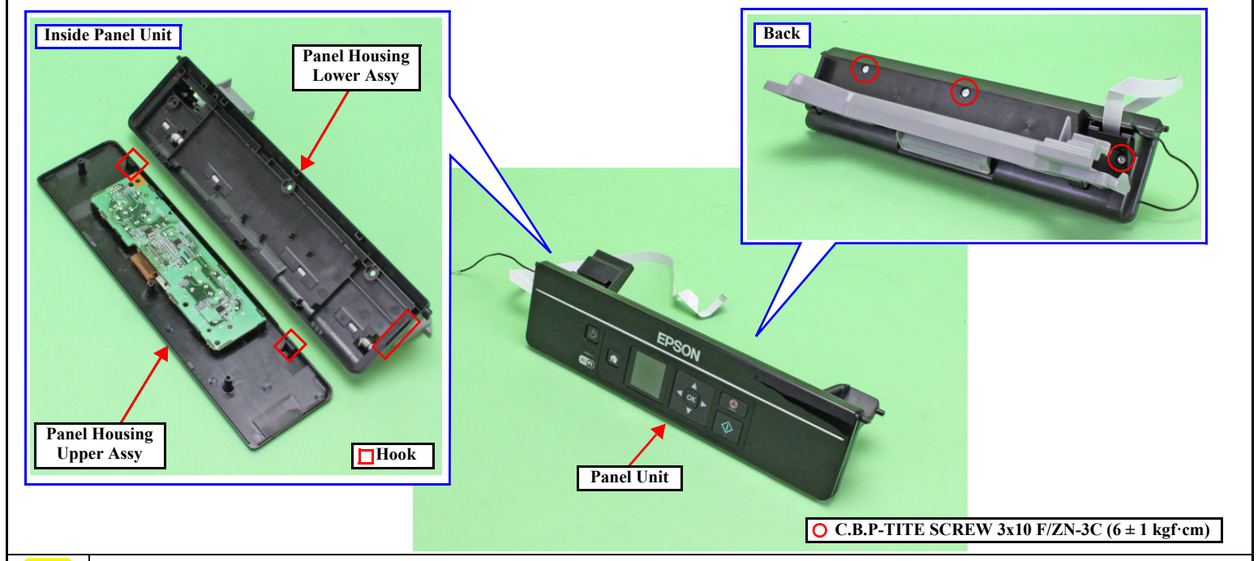
1. Place the Waste Ink Pad Assy under the Frame Base.
2. Slide the Waste Ink Pad Assy in the direction of the arrow to align the hole of the Waste Ink Pad Assy with the hook of the Frame Base.
3. Confirm the following first, and then tighten the screw to secure the Waste Ink Pad Assy.
   - The rib of the Waste Ink Pad Assy is correctly inserted into the hole of the Frame Base.
   - The Waste Ink Pad Assy is secured firmly with the hook of the Frame Base.

Panel Unit (Separated Scanner and Panel Type)



When installing the Panel Unit, follow the procedure below.
1. Route the Panel FFC and grounding wire through the holes of the Frame Base. (p 53)
2. Insert the dowels (x2) of the Panel Stand into the grooves on both sides of the Frame Base from the sections indicated in the arrows shown above.
3. Insert the dowels (x2) of the Panel Unit into the holes (x2) of the Frame Base, and secure the Panel Unit to the Frame Base.

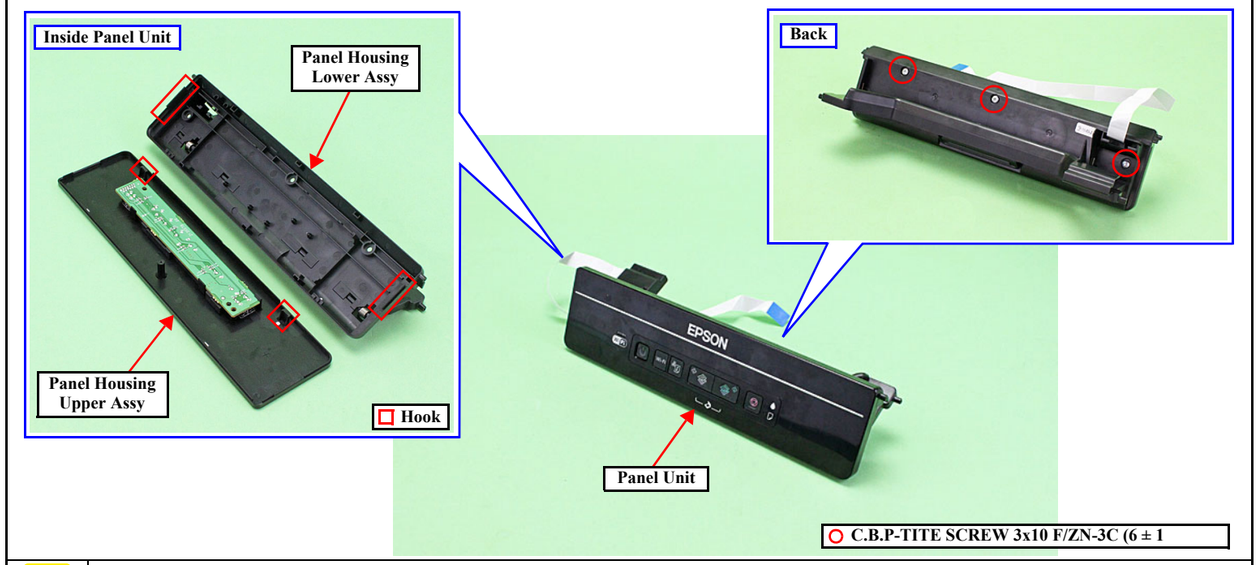
Panel Housing Lower Assy (LCD & Button Type)



Be careful not to damage the hooks (x2) of the Panel Housing Upper Assy when releasing them.

When removing the Panel Housing Lower Assy, follow the procedure below.
1. Remove the screws (x3) on the back of the Panel Unit.
2. Widen the upper side of the Panel Unit slightly to release the hook of the Panel Housing Lower Assy.
3. Release the hooks (x2) of the Panel Housing Upper Assy one by one, and remove the Panel Housing Lower Assy.

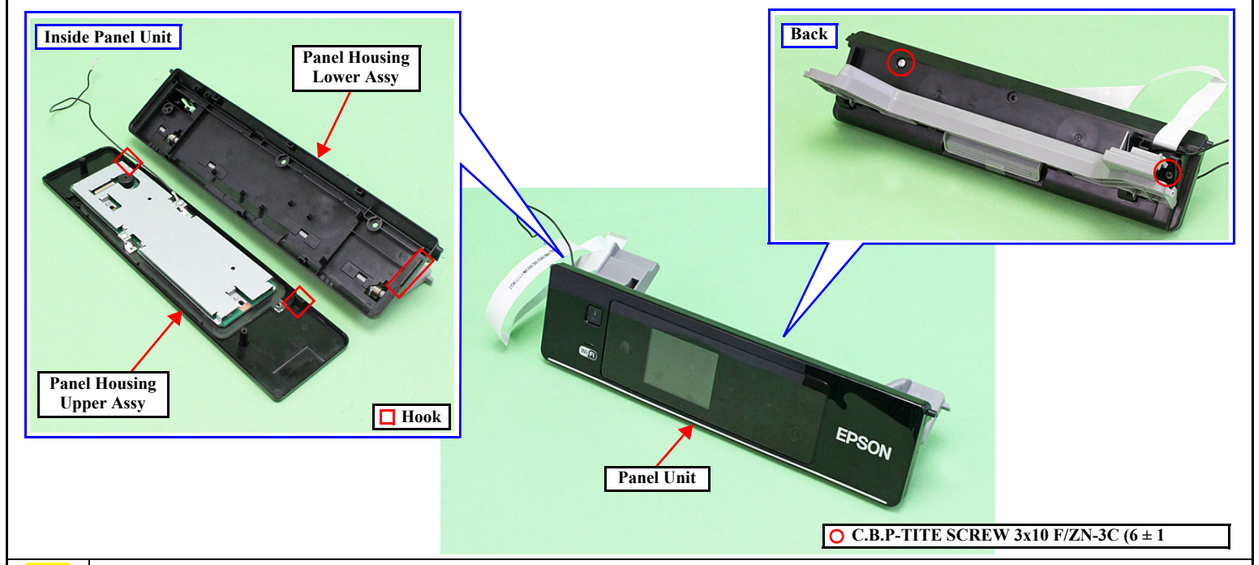
Panel Housing Lower Assy (No LCD Type)



Be careful not to damage the hooks (x2) of the Panel Housing Upper Assy when releasing them.

When removing the Panel Housing Lower Assy, follow the procedure below.
1. Remove the screws (x3) on the back of the Panel Unit.
2. Widen the upper side of the Panel Unit slightly to release the hooks (x2) of the Panel Housing Lower Assy.
3. Release the hooks (x2) of the Panel Housing Upper Assy one by one, and remove the Panel Housing Lower Assy.

Panel Housing Lower Assy (Touch Panel Type)

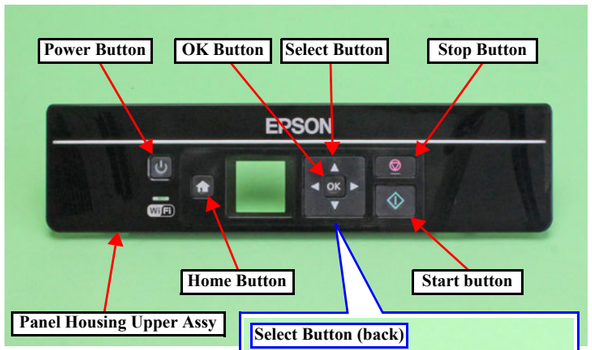


Be careful not to damage the hooks (x2) of the Panel Housing Upper Assy when releasing them.

When removing the Panel Housing Lower Assy, follow the procedure below.
1. Remove the screws (x2) on the back of the Panel Unit.
2. Widen the upper side of the Panel Unit slightly to release the hook of the Panel Housing Lower Assy.
3. Release the hooks (x2) of the Panel Housing Upper Assy one by one, and remove the Panel Housing Lower Assy.

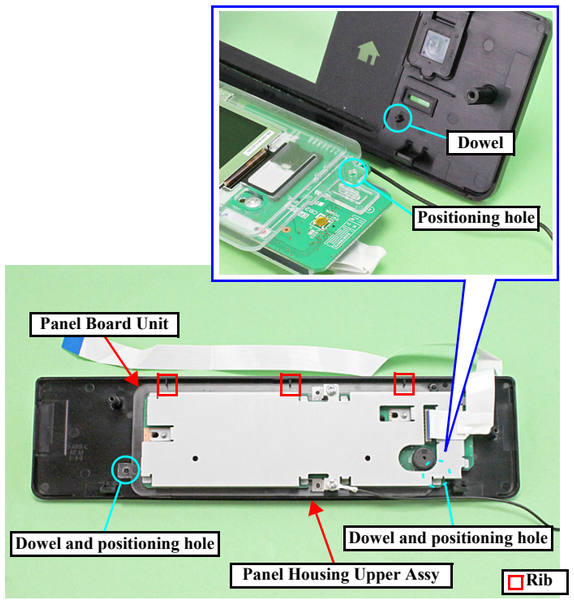
Confidential

Panel Buttons (Separated Scanner and Panel Type)



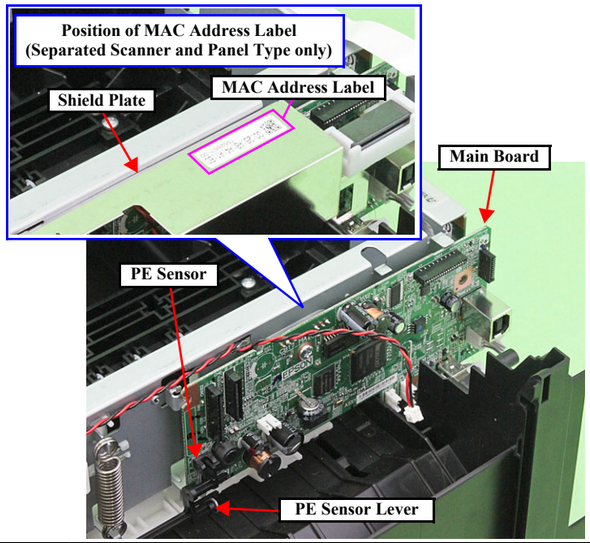
When attaching the Select Button to the Panel Housing Upper Assy, attach the Select Button with its side without any rib downward.

Panel Board w/Touch Panel (Touch Panel Type)



When installing the Panel Board Unit to the Panel Housing Upper Assy, insert the Panel Board Unit under the ribs (x3) of the Panel Housing Upper Assy, and then align the dowels (x2) of the Panel Housing Upper Assy with the positioning holes of the Panel Board Unit.

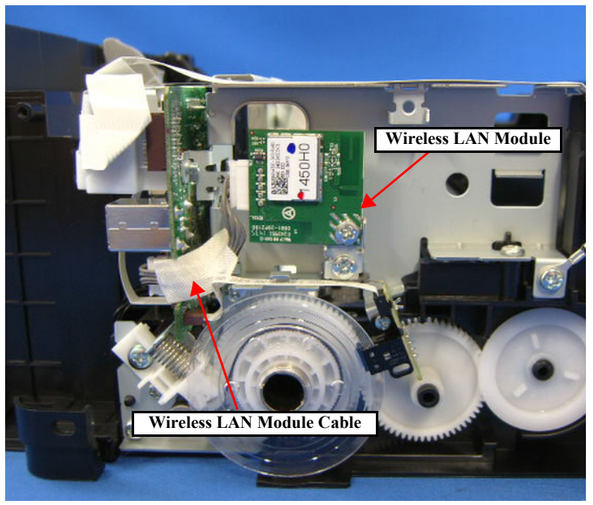
Main Board



Do not damage or contaminate the MAC Address Label.
(Separated Scanner and Panel Type only)

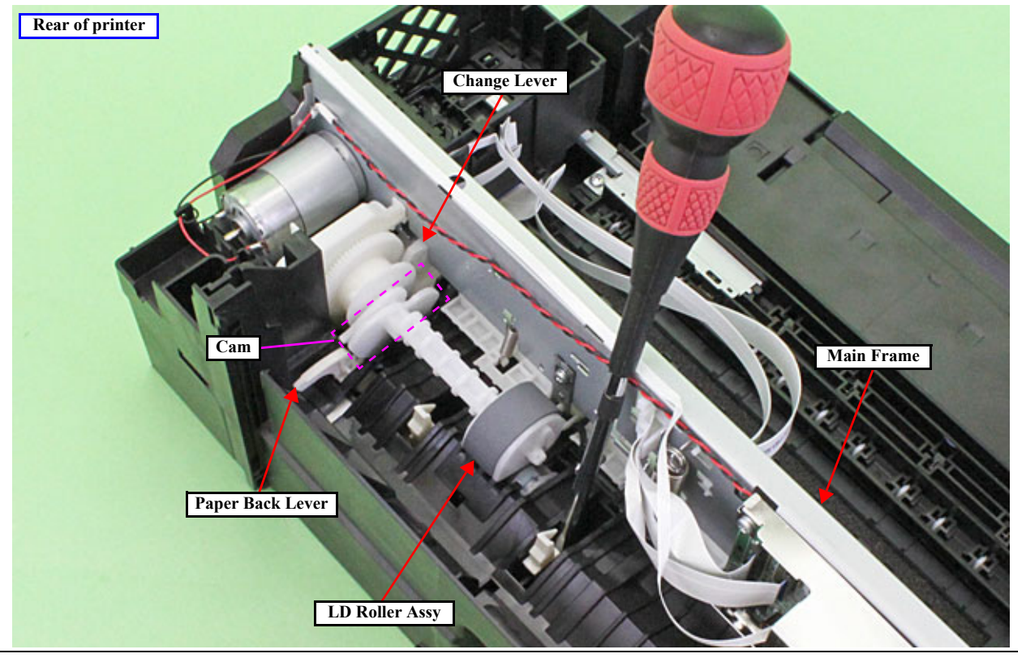
- Install the Main Board with the PE Sensor Lever to the rear. After installing the Main Board, make sure the lever part of the PE Sensor Lever is aligned with the slit of the PE Sensor.
- Attach the MAC Address Label to the Shield Plate on the position shown above.

Wireless LAN Module



Attach two pieces of acetate tape on the Wireless LAN Module cable to cover the cable to protect it as shown above.

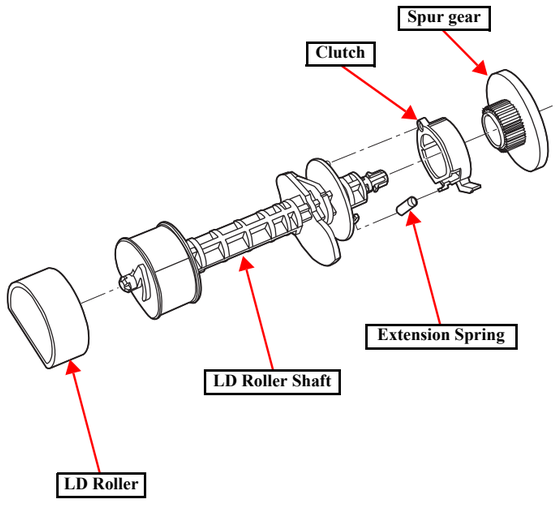
LD Roller Assy (1)



Install the LD Roller Assy with the following condition in order to avoid the Change Lever and Paper Back Lever.

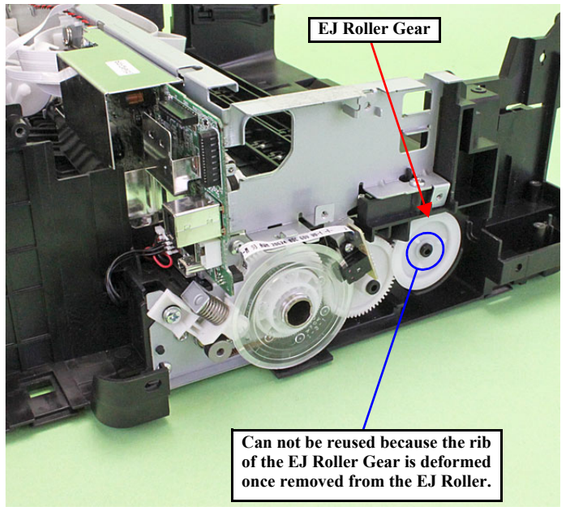
- Using a screw driver or the like, hold the Paper Back Lever to the rear as shown above not to let it touch the LD Roller Assy.
- Push the Change Lever to the front to keep it in the hole of the Main Frame.

LD Roller Assy (2)



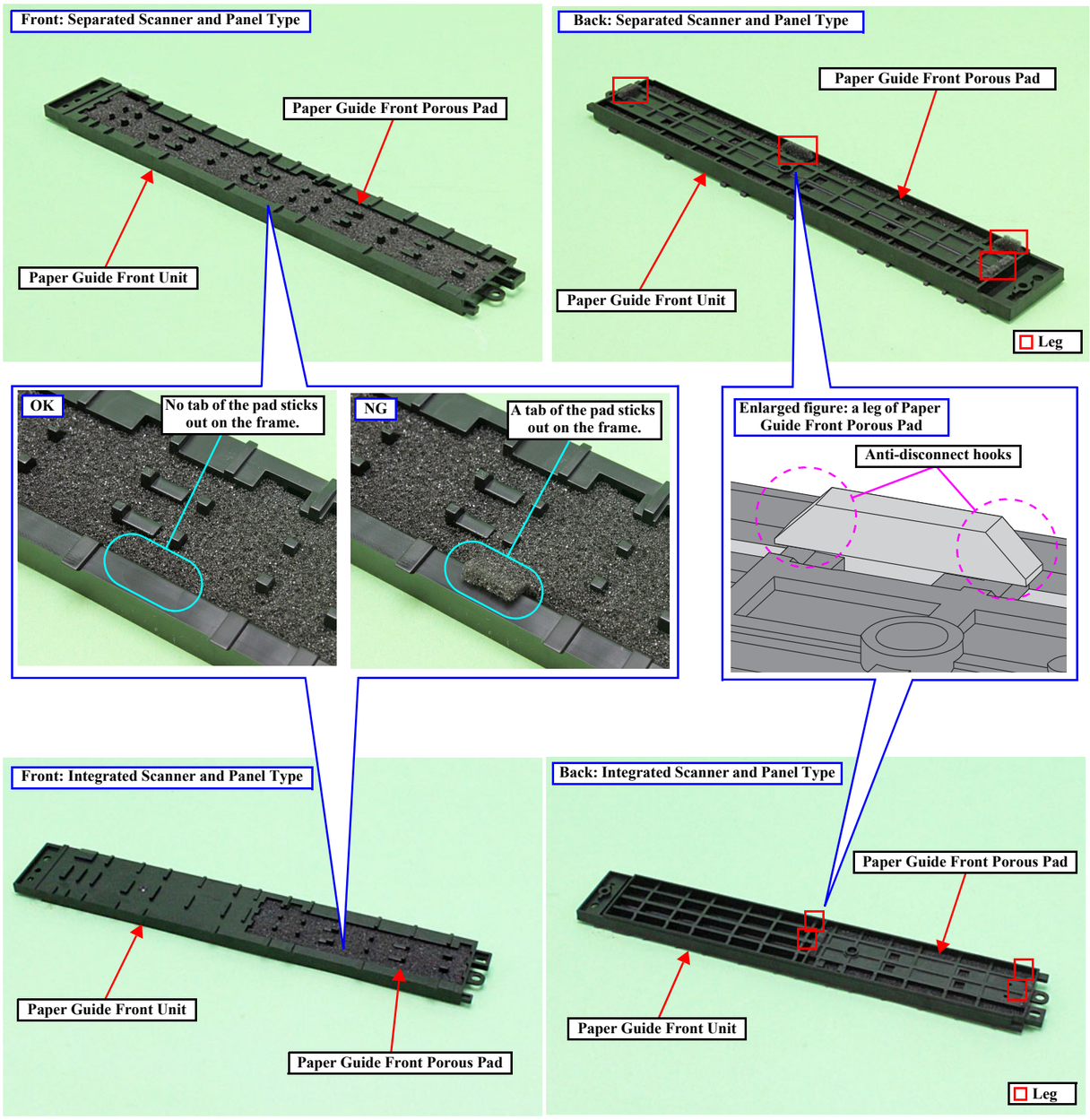
If each part shown above comes off when removing the LD Roller Assy, attach them back in place as shown in the figure above.

EJ Roller Gear



The rib on the contact point of the EJ Roller Gear with the EJ Roller is deformed when removing the EJ Roller Gear. Therefore, make sure to replace it with a new one when removing it in order to maintain the paper feed accuracy.

Paper Guide Front Porous Pad


Front: Separated Scanner and Panel Type
Paper Guide Front Porous Pad
Paper Guide Front Unit
Back: Separated Scanner and Panel Type
Paper Guide Front Porous Pad
Paper Guide Front Unit
Leg
OK
No tab of the pad sticks out on the frame.
NG
A tab of the pad sticks out on the frame.
Enlarged figure: a leg of Paper Guide Front Porous Pad
Anti-disconnect hooks
Front: Integrated Scanner and Panel Type
Paper Guide Front Unit
Paper Guide Front Porous Pad
Back: Integrated Scanner and Panel Type
Paper Guide Front Porous Pad
Paper Guide Front Unit
Leg

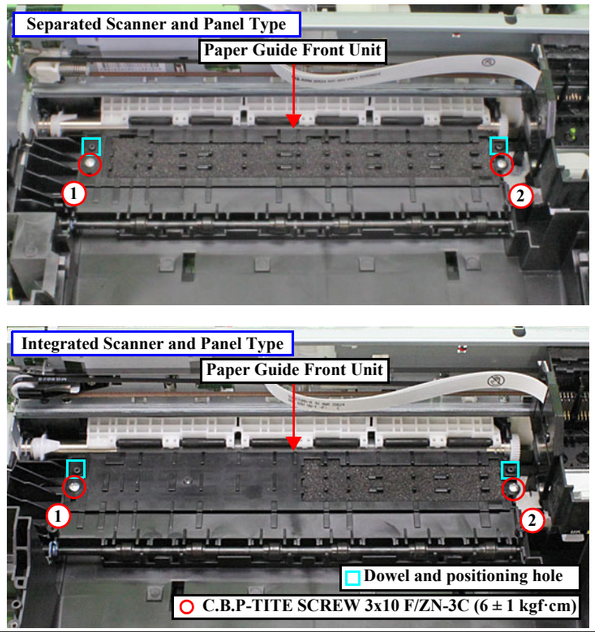
When installing the Paper Guide Front Porous Pad, make sure to wipe off the grease attached on the Paper Guide Front Unit.

- The Paper Guide Front Porous Pad is not included in the replacement parts when the maintenance error occurs.
- The shapes of the Paper Guide Front Unit and Paper Guide Front Porous Pad differ between models because of the size of the borderless printing.

After installing the Paper Guide Front Porous Pad, make sure of the following.

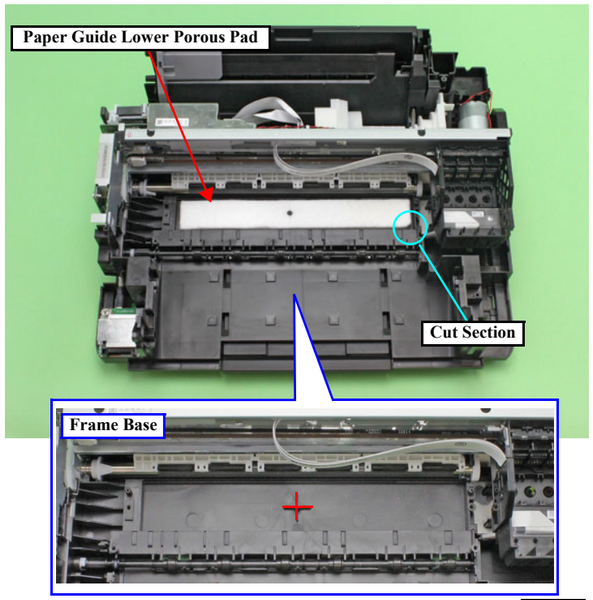
- The entire anti-disconnect hooks on both ends of the legs of the Paper Guide Porous Pad should come out from the holes on the bottom of the Paper Guide Front Unit.
- The tabs of the Paper Guide Front Porous Pad should be inserted completely into the grooves of the Paper Guide Front Unit.
- No parts of the Paper Guide Porous Pad are wavy or lift over the platen surface of the Paper Guide Front Unit.

Paper Guide Front Unit



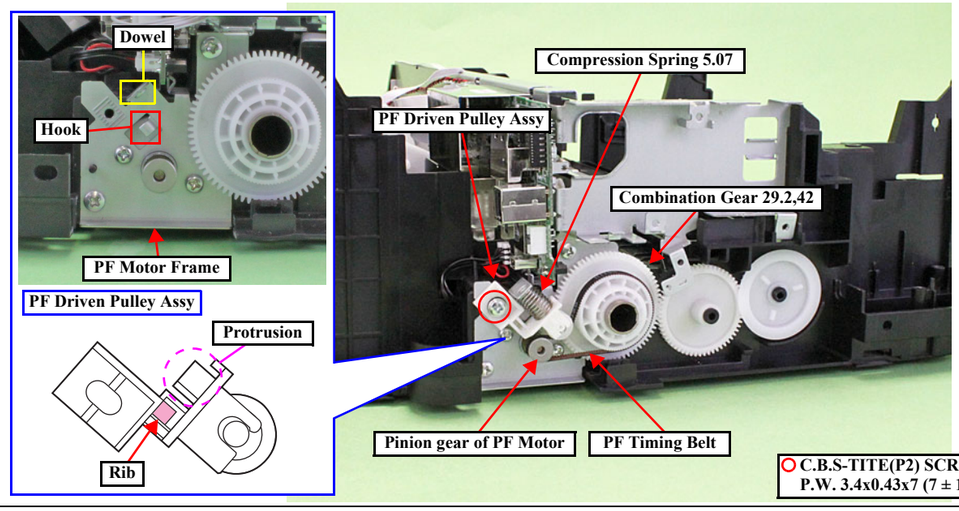
- When installing the Paper Guide Front Unit, align the positioning holes (x2) of the Paper Guide Front Unit with the dowels (x2) of the Frame Base.
- Tighten the screws in the order indicated in the figure above.

Paper Guide Lower Porous Pad



- When installing the Paper Guide Lower Porous Pad, set it with the cut section to the front right of the printer.
- Align the cutout of the Paper Guide Lower Porous Pad with the rib of the Frame Base.

PF Driven Pulley Assy / PF Timing Belt

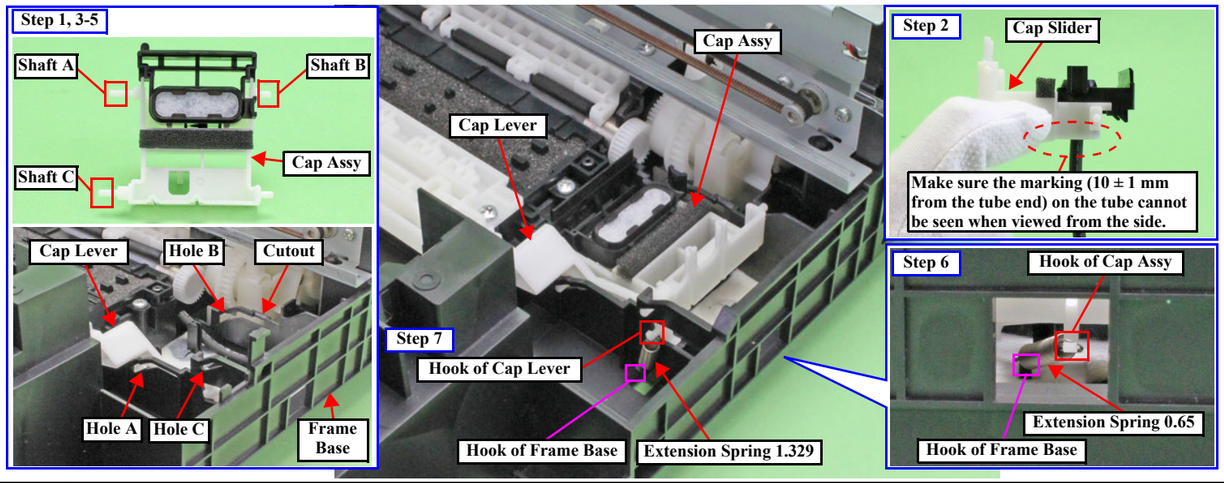


Do not hold the PF Driven Pulley Assy when securing it with the screw in order to prevent applying improper tension to the PF Timing Belt.

When installing the PF Driven Pulley Assy, follow the procedure below.

1. Align the rib of the PF Driven Pulley Assy with the hook of the PF Motor Frame, and install the PF Driven Pulley Assy.
2. Attach the Compression Spring 5.07 to the protrusion of the PF Driven Pulley Assy and the dowel of the PF Motor Frame.
3. Attach the PF Timing Belt in the order of the pinion gear of the PF Motor, PF Driven Pulley and Combination Gear 29.2,42.
4. Rotate the Combination Gear 29.2,42 clockwise three times to confirm the PF Timing Belt is correctly attached, and then secure the PF Driven Pulley Assy with the screw and washer to the PF Motor Frame.

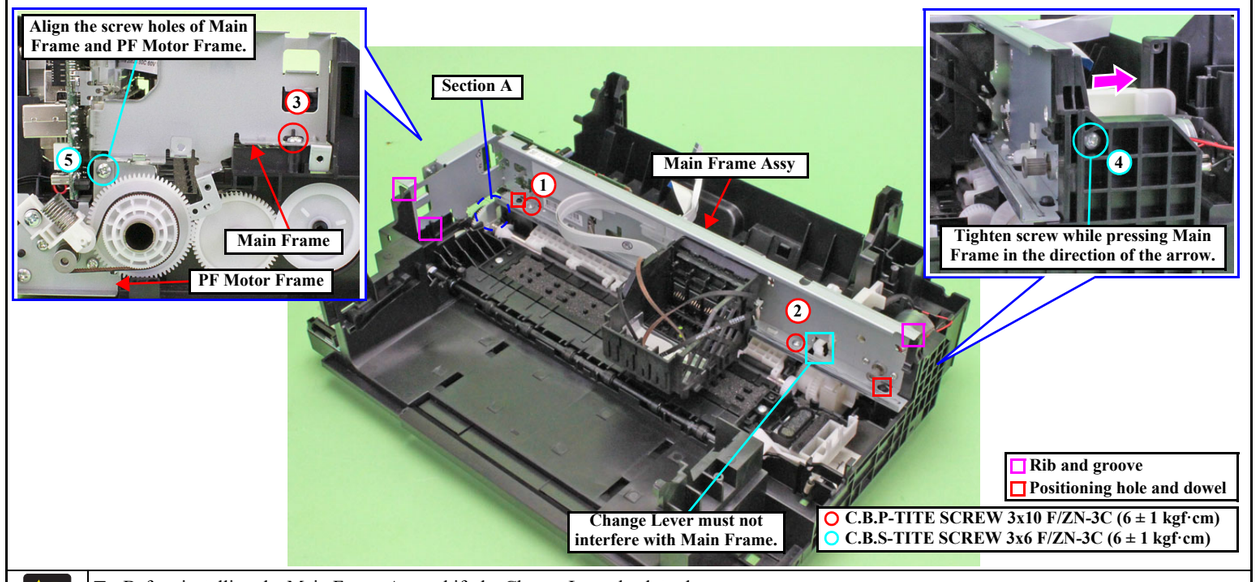
Cap Lever/Cap Assy



When installing the Cap Lever/Cap Assy, follow the procedure below.

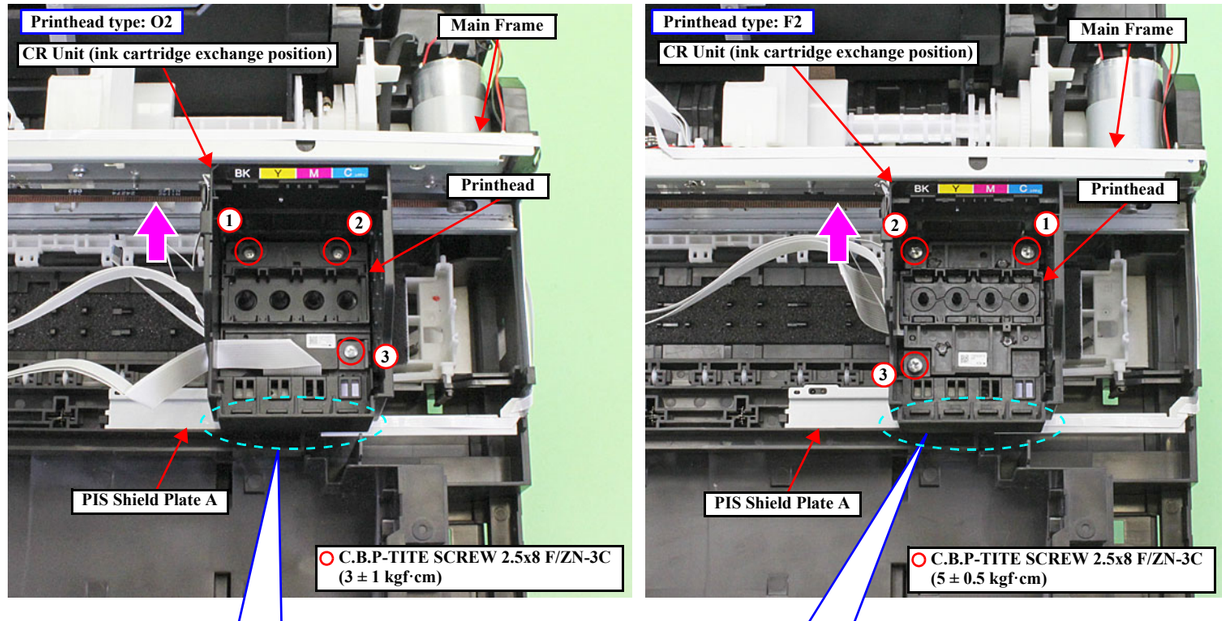
1. Attach the Cap Lever to the Frame Base, and attach one end of the Extension Spring 0.65 to the hook of the Frame Base.
2. Connect the tube of the Pump Unit to the joint on the bottom of the Cap Assy. Then, viewing from the side, confirm the marking (10 ± 1 mm from the tube end) on the tube is covered by the Cap Slider.
3. Insert the shaft A of the Cap Assy through the hole of the Cap Lever to the hole A of the Frame Base.
4. Insert the shaft B of the Cap Assy through the cutout of the Frame Base and to the hole B of the Frame Base.
5. Insert the shaft C of the Cap Assy to the hole C of the Frame Base.
6. Using a “spring hook jig” (p 25), attach the other end of the Extension Spring 0.65 to the hook of the Cap Assy.
7. Attach the Extension Spring 1.329 to the hooks of the Cap Lever and Frame Base.

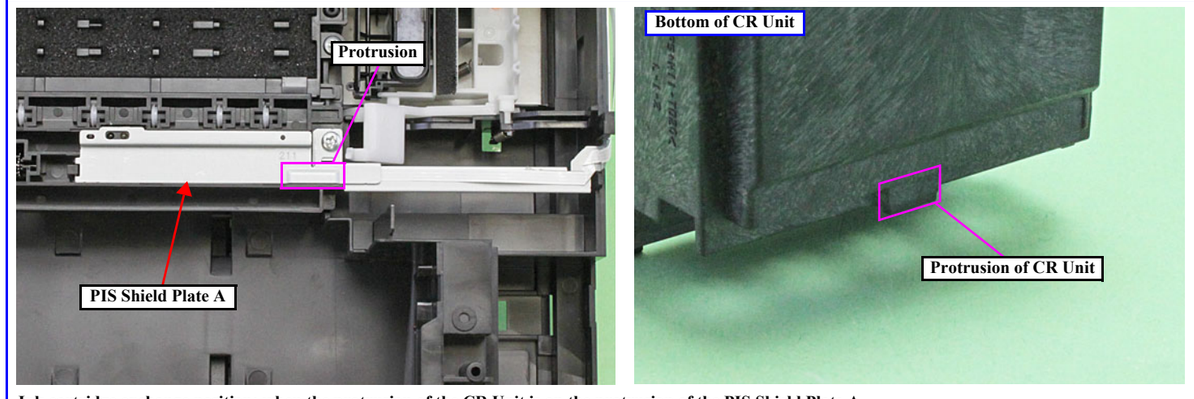
Main Frame Assy


Align the screw holes of Main Frame and PF Motor Frame.
Main Frame
PF Motor Frame
Section A
Main Frame Assy
Change Lever must not interfere with Main Frame.
Tighten screw while pressing Main Frame in the direction of the arrow.
Rib and groove
Positioning hole and dowel
C.B.P-TITE SCREW 3x10 F/ZN-3C (6 ± 1 kgf·cm)
C.B.S-TITE SCREW 3x6 F/ZN-3C (6 ± 1 kgf·cm)

- Before installing the Main Frame Assy, shift the Change Lever back to the rear.
- When installing the Main Frame Assy, make sure of the following.
  - The Change Lever must not interfere with the Main Frame.
  - The above shown ribs and grooves, positioning holes and dowels are correctly aligned.
  - The section A of the Main Frame Assy is not deformed.
- Tighten the screws in the order indicated in the figure above.

Printhead


Printhead type: O2
CR Unit (ink cartridge exchange position)
Main Frame
Printhead
PIS Shield Plate A
C.B.P-TITE SCREW 2.5x8 F/ZN-3C (3 ± 1 kgf·cm)
Printhead type: F2
CR Unit (ink cartridge exchange position)
Main Frame
Printhead
PIS Shield Plate A
C.B.P-TITE SCREW 2.5x8 F/ZN-3C (5 ± 0.5 kgf·cm)

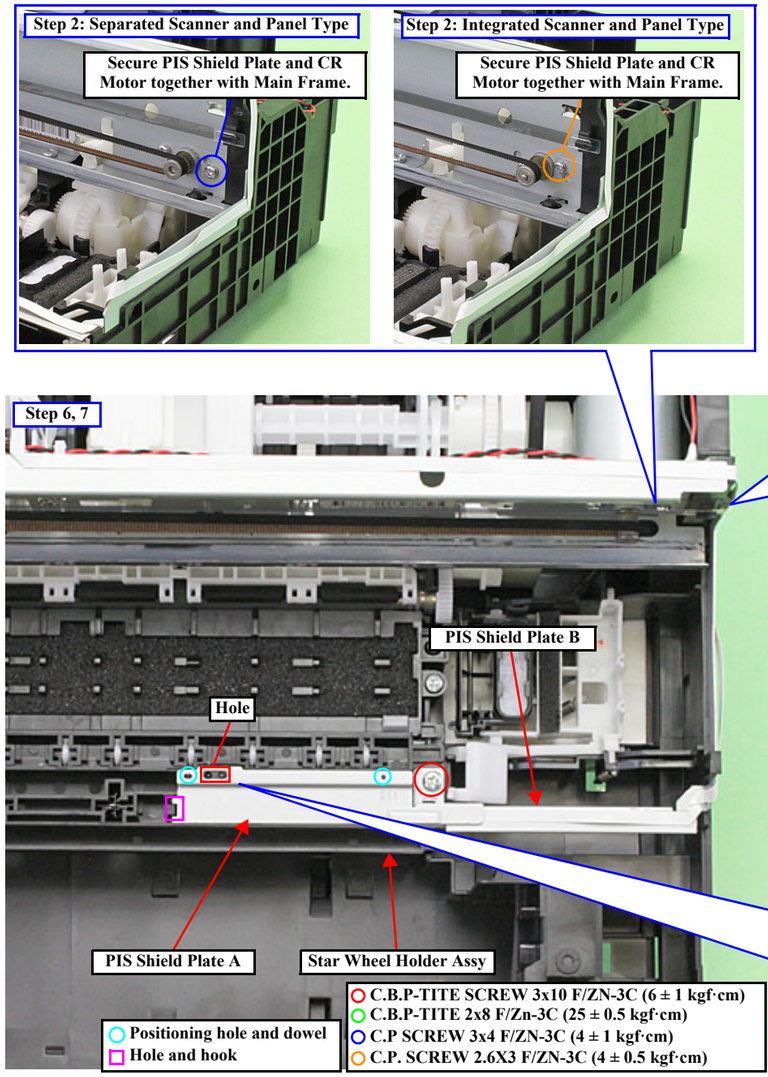


Ink cartridge exchange position: when the protrusion of the CR Unit is on the protrusion of the PIS Shield Plate A.
Do not remove/replace the Printhead other than under this condition in order to prevent the Main Frame from being deformed.

When removing/replacing the Printhead, be sure the CR Unit is at the “ink cartridge exchange position” shown above. Otherwise, the Main Frame may be deformed by applying force perpendicularly when tightening the screws and it may affect print quality.

Tighten the screws of the Printhead in the order indicated in the figure above while pressing the Printhead in the direction of the arrow.

PIS Board Assy /Star Wheel Holder Assy

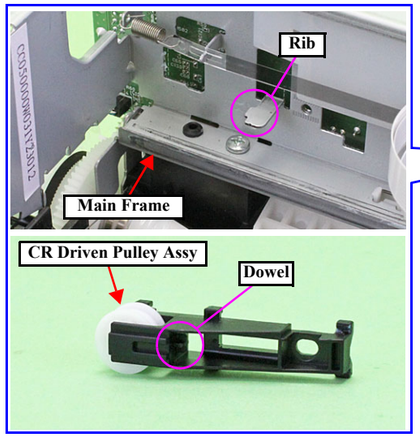

Step 2: Separated Scanner and Panel Type
Secure PIS Shield Plate and CR Motor together with Main Frame.
Step 2: Integrated Scanner and Panel Type
Secure PIS Shield Plate and CR Motor together with Main Frame.
Step 1
Section A
PIS Shield Plate B
Hole
Frame Base
Step 6, 7
PIS Shield Plate B
Hole
PIS Shield Plate A
Star Wheel Holder Assy
Positioning hole and dowel
Hole and hook
C.B.P-TITE SCREW 3x10 F/ZN-3C (6 ± 1 kgf·cm)
C.B.P-TITE 2x8 F/Zn-3C (25 ± 0.5 kgf·cm)
C.P SCREW 3x4 F/ZN-3C (4 ± 1 kgf·cm)
C.P. SCREW 2.6X3 F/ZN-3C (4 ± 0.5 kgf·cm)
Step 3
Star Wheel Holder Assy
Sensor
Dowel and cutout
PIS Board Assy
Step 4
Turn it CCW.
PIS FFC

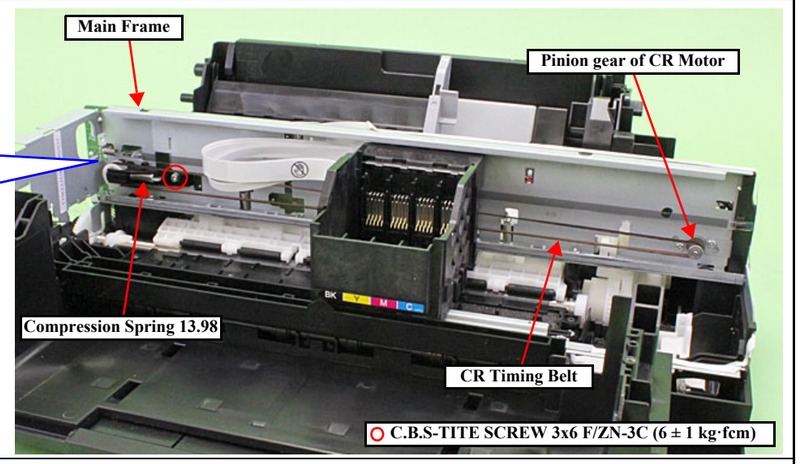
- PIS Shield Plate B and CR Motor are secured to the Main Frame together.
- If the internal thread of the screw hole on the Star Wheel Holder Assy has been damaged, a fatal error may occur because the PIS Board Assy is detached due to vibrations during transportation or the like. When securing the PIS Board Assy with the screw, first turn the screw CCW and align the thread of the screw and the internal thread of the screw hole on the Star Wheel Holder Assy, then tighten the screw securely.
- Do not touch the sensor of the PIS Board Assy.
- Do not use air-blowing when cleaning the PIS Board Assy. If the board is dirty with ink or similar, wipe it off using a waste cloth.

When installing the PIS Board Assy / Star Wheel Holder Assy, follow the procedure below.

1. Insert the section A of the PIS Shield Plate B into the hole of the Frame Base.
2. Secure the PIS Shield Plate B using the screw together with the CR Motor and Main Frame.
3. Connect the PIS FFC to the connector on the PIS Board Assy, and then align the dowels (x2) of the PIS Board Assy with the positioning hole and cutout of the Star Wheel Holder Assy.
4. Secure the PIS Board Assy with the screw while pressing it to the rear of the printer and supporting the Star Wheel Holder Assy with your hand so as to prevent it from warping.
5. Route the PIS FFC and connect it to the Main Board. (p 53)
6. Align the positioning holes (x2) on the PIS Shield Plate A with the dowels (x2) on the Star Wheel Holder Assy, and engage the hole on the PIS Shield Plate A to the hook on the Star Wheel Holder Assy, then attach the PIS Shield Plate A to the Star Wheel Holder Assy.
7. After confirming the sensor of the PIS Board Assy is set out from the hole on the PIS Shield Plate A, secure the PIS Shield Plate A/B and Star Wheel Holder Assy together with the screw.

CR Driven Pulley Assy / CR Timing Belt (Integrated Scanner and Panel Type)



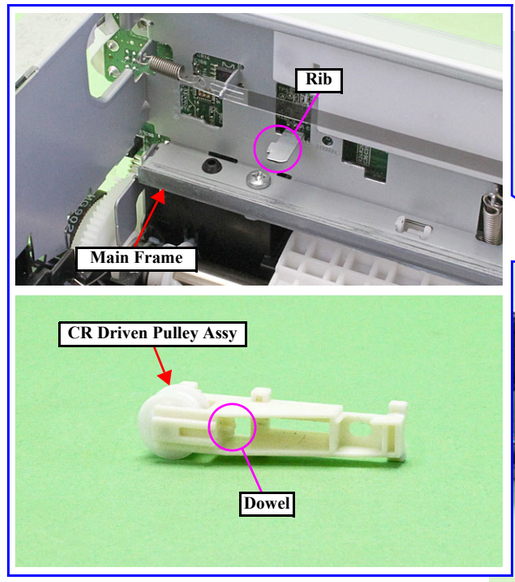


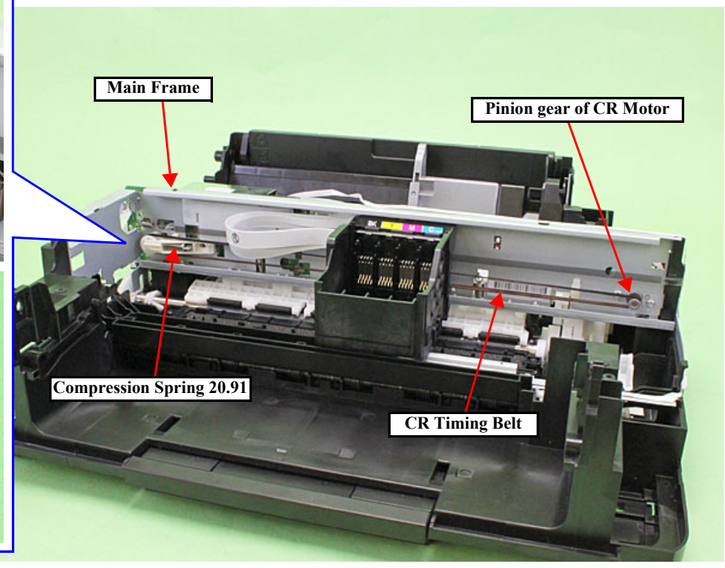
If the CR Timing Belt has to be replaced, it is necessary to extend the new CR Timing Belt by the tension of the Compression Spring 13.98 in advance. If the CR Timing Belt is replaced without doing this extension process, misalignment of the belt or print failure may occur. Therefore, make sure to follow the assembling procedure when installing the CR Timing Belt.

When installing the CR Driven Pulley Assy and CR Timing Belt, follow the procedure below.

1. Install the CR Driven Pulley Assy to the Main Frame.
2. Attach the Compression Spring 13.98 in the order from the dowel on the CR Driven Pulley Assy to the rib on the Main Frame.
3. Attach the CR Timing Belt to the CR Driven Pulley Assy.
4. Attach the CR Timing Belt on the pinion gear of the CR Motor while pushing the CR Driven Pulley Assy to the 0-digit side.
5. Wait five minutes for CR Timing Belt to be extended by the tension of the Compression Spring 13.98.
6. Secure the CR Driven Pulley Assy wit the screw.

CR Driven Pulley Assy / CR Timing Belt (Separated Scanner and Panel Type)

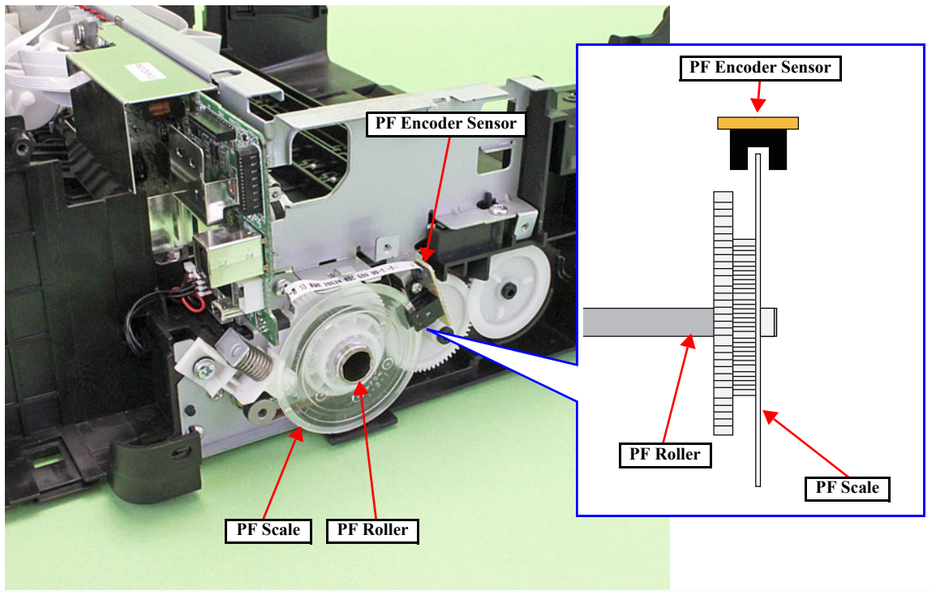




When installing the CR Driven Pulley Assy and CR Timing Belt, follow the procedure below.

1. Install the CR Driven Pulley Assy to the Main Frame.
2. Attach the Compression Spring 20.91 in the order from the dowel on the CR Driven Pulley Assy to the rib on the Main Frame.
3. Attach the CR Timing Belt to the CR Driven Pulley Assy.
4. Attach the CR Timing Belt on the pinion gear of the CR Motor while pushing the CR Driven Pulley Assy to the 0-digit side.

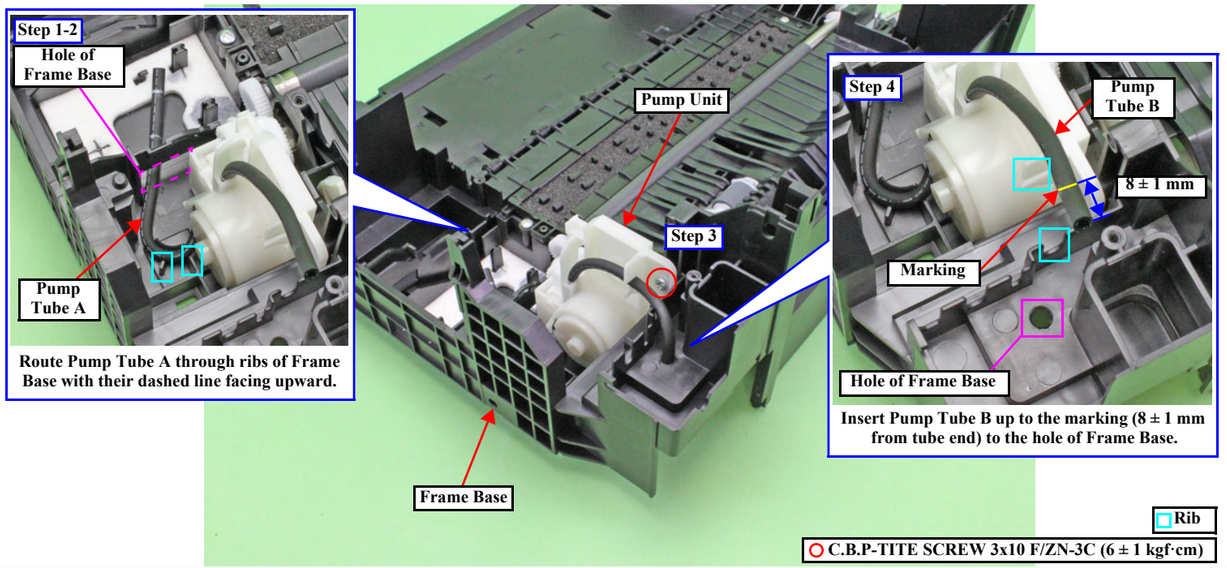
PF Encoder Sensor/ PF Scale



Do not reuse the removed PF Scale and make sure to replace it with a new one when removing it.
When installing the PF Scale, it is pressed into the PF Roller, therefore, the removed one is deformed. If it is re-installed to the printer, it does not rotate properly and the paper feed accuracy may be reduced.

- When installing the PF Scale to the PF Roller, press the PF Scale into the PF Roller vertically.
- After installing the PF Encoder Sensor, confirm the PF Scale does not touch the PF Encoder Sensor.

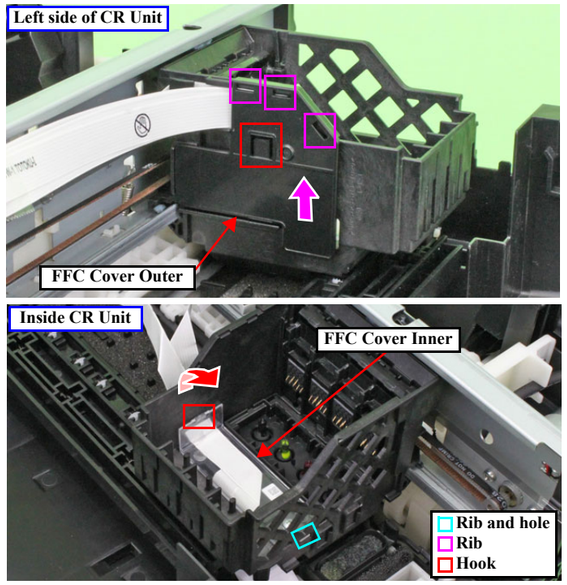
Pump Unit


Step 1-2
Hole of Frame Base
Pump Tube A
Route Pump Tube A through ribs of Frame Base with their dashed line facing upward.
Pump Unit
Step 3
Frame Base
Step 4
Pump Tube B
8 ± 1 mm
Marking
Hole of Frame Base
Insert Pump Tube B up to the marking (8 ± 1 mm from tube end) to the hole of Frame Base.
Rib
C.B.P-TITE SCREW 3x10 F/ZN-3C (6 ± 1 kgf·cm)

When installing the Pump Unit, follow the procedure below in order to prevent ink suction failure.

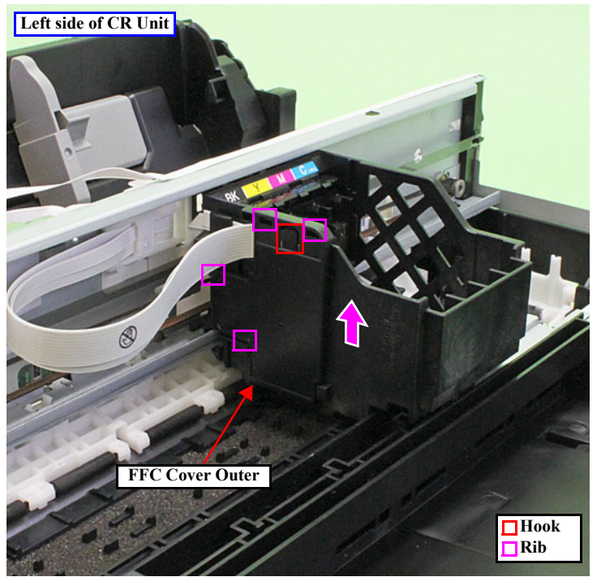
1. Route the Pump Tube A through the hole of the Frame Base.
2. Install the Pump Unit to the Frame Base, and route the Pump Tube A through the ribs of the Frame Base with their dashed line facing upward.
3. Secure the Pump Unit to the Frame Base with the screw (x1).
4. Route the Pump Tube B through the ribs of the Pump Unit and Frame Base, and insert it to the hole of the Frame Base up to the marking (8 ± 1 mm from tube end).

FFC Cover Outer/FFC Cover Inner (Printhead type: O2)



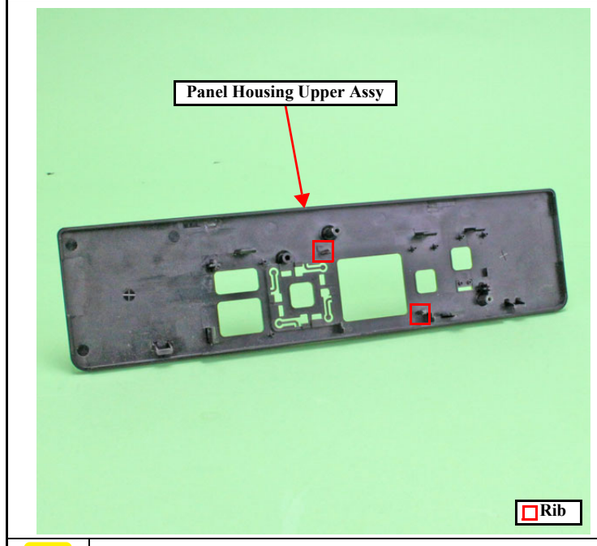
- Slide and remove the FFC Cover Outer in the direction of the arrow while releasing the hook.
- When removing the FFC Cover Inner, release the hook first, and then lift it in the direction of the arrow while disengaging the rib of it from the hole of the CR Unit.

FFC Cover Outer (Printhead type: F2)



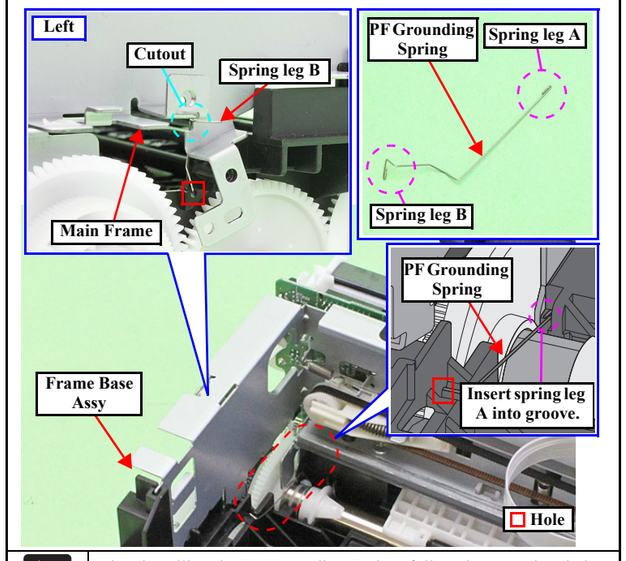
Slide and remove the FFC Cover Outer in the direction of the arrow while releasing the hook.

Panel Housing Upper Assy (Separated Scanner and Panel Type)



When attaching the LCD to the Panel Housing Upper Assy, the LCD is secured with the ribs of the Panel Housing Upper Assy which are ground by the positioning holes on the Shield Plate of the LCD. Therefore, the ribs become smaller than the positioning holes when removing the LCD and can not hold the LCD securely. Once the LCD is removed from the Panel Housing Upper Assy, be sure to replace the Panel Housing Upper Assy with a new one.

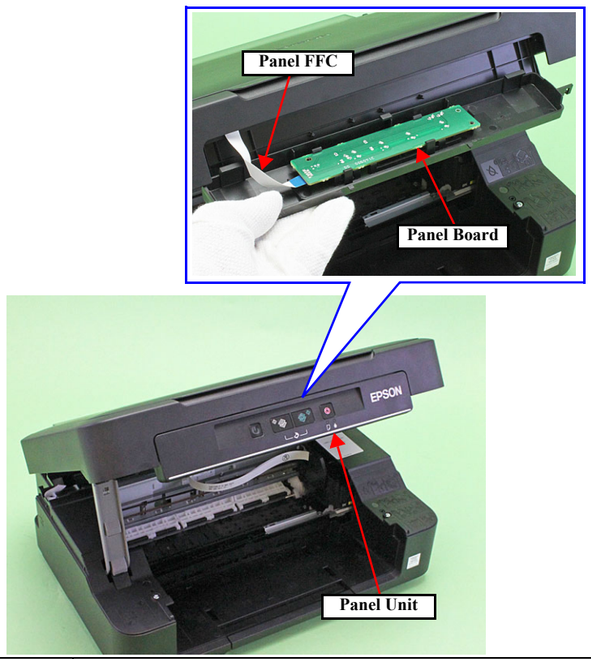
PF Grounding Spring



When installing the PF Grounding Spring, follow the procedure below.

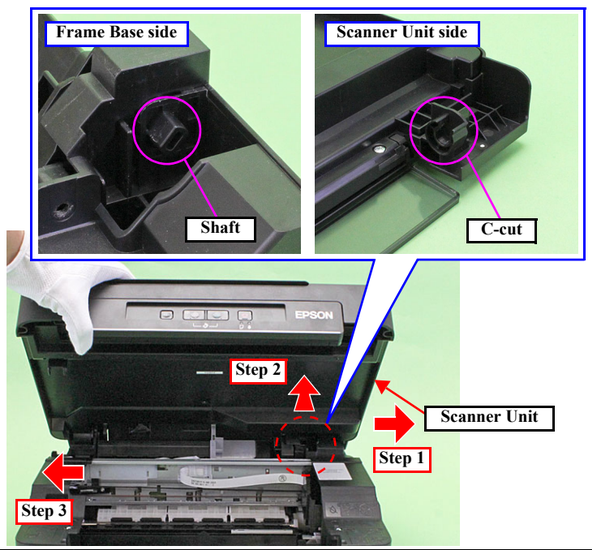
1. From the left side of the printer, insert the spring leg A of the PF Grounding Spring into the hole of the Frame Base.
2. Insert the spring leg B of the PF Grounding Spring into the groove of the Frame Base.
3. Attach the spring leg B of the PF Grounding Spring to the cutout of the Main Frame to install the PF Grounding Spring.

Panel Unit (Integrated Scanner and Panel Type)



The Panel FFC is connected to the back of the Panel Unit, therefore, be careful not to damage the Panel FFC when removing the Panel Unit.

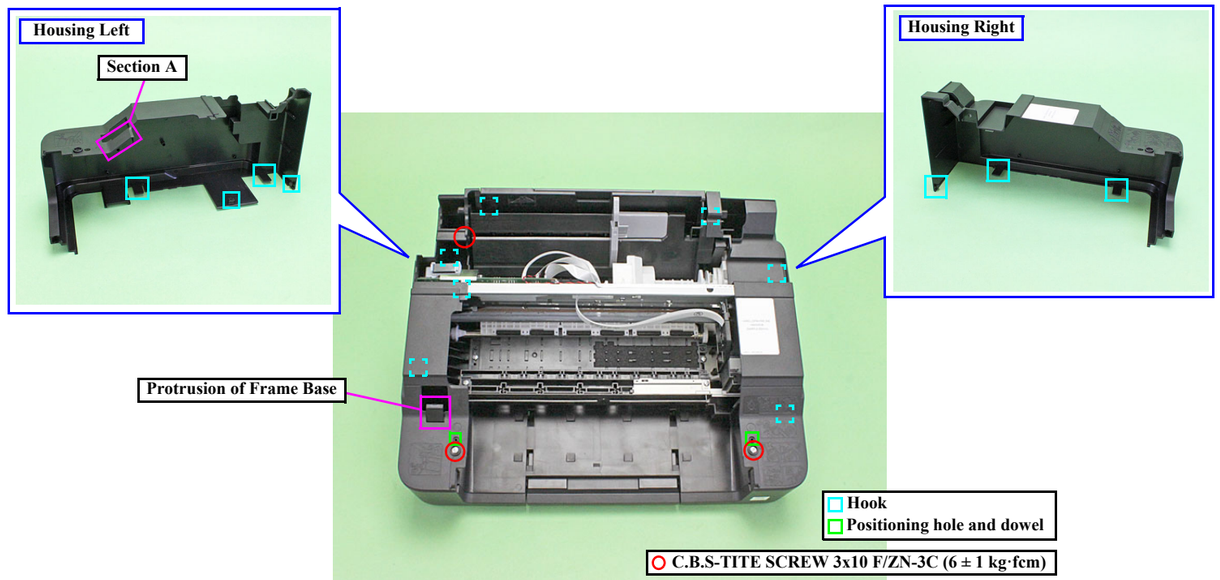
Scanner Unit (Integrated Scanner and Panel Type)



When removing the Scanner Unit, follow the procedure below.

1. Open the Scanner Unit. Push and slide the scanner unit toward 0-digit side.
2. Detach the shaft of the hinge on the 0-digit side from the C-cut on the Scanner Unit by adjusting the opening angle of the Scanner Unit.
3. Draw out the hinge on the 80-digit side from the shaft on the Frame Base and remove the Scanner Unit.

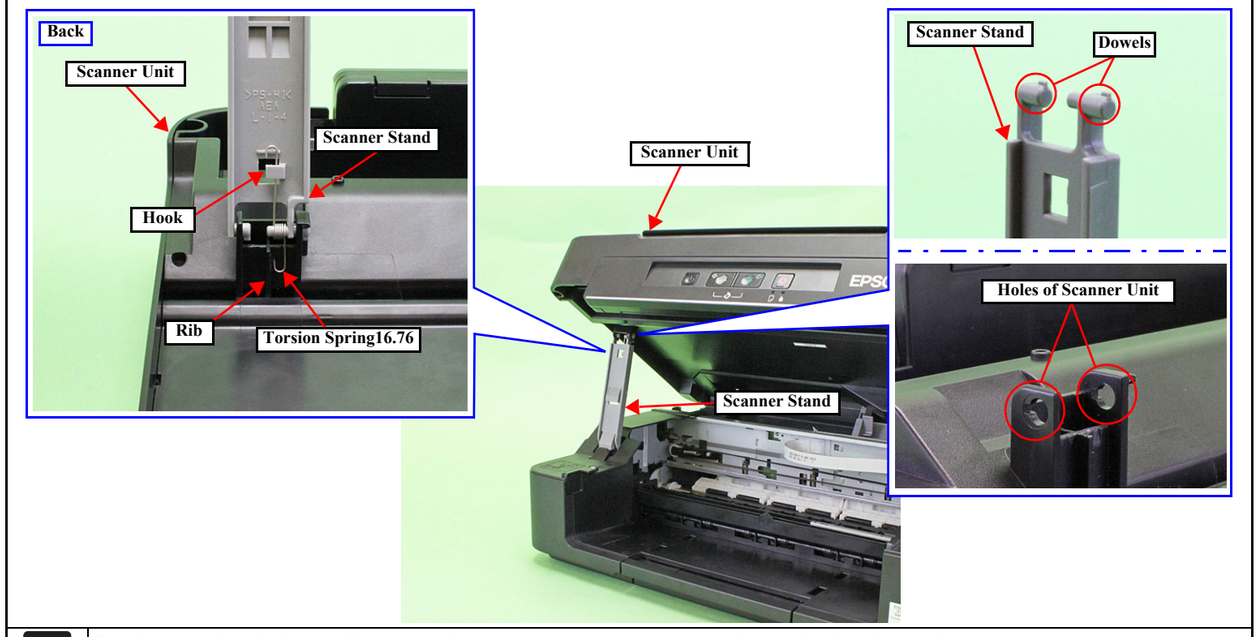
Housing Left/Right (Integrated Scanner and Panel Type)



When releasing the hooks (x7) of the Housing Left/Housing Right, be careful not to damage the hooks (x7).

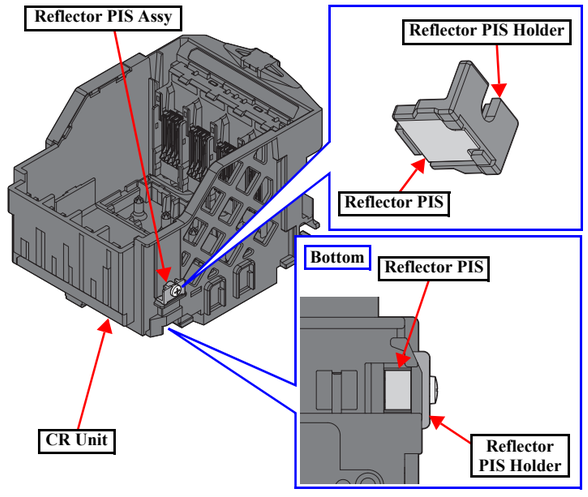
- When removing the Housing Left, first release the hooks and dowels shown in the figure and disengage the section A, then remove the Housing Left while releasing the hole on it from the protrusion on the Frame Base.
- Release the hooks and dowels shown above when removing the Housing Right.

Scanner Stand/Torsion Spring16.76 (Integrated Scanner and Panel Type)



- When installing the Scanner Stand to the Scanner Unit, align the cutouts on the holes (x2) of the Scanner Unit with the protrusions on the dowels (x2) of the Scanner Stand.
- When attaching the Torsion Spring16.76, make sure to attach the longer leg of the spring to the hook of the Scanner Stand and the shorter one to the rib of the Scanner Unit.

Reflector PIS Assy



- Do not remove the Reflector PIS Assy from the Reflector PIS Holder.
- When handling the Reflector PIS Assy, be careful not to contaminate or damage the Reflector PIS.

(Reflector PIS Assy is not included in XP-2100/2200 series.)

Reflector PIS Assy

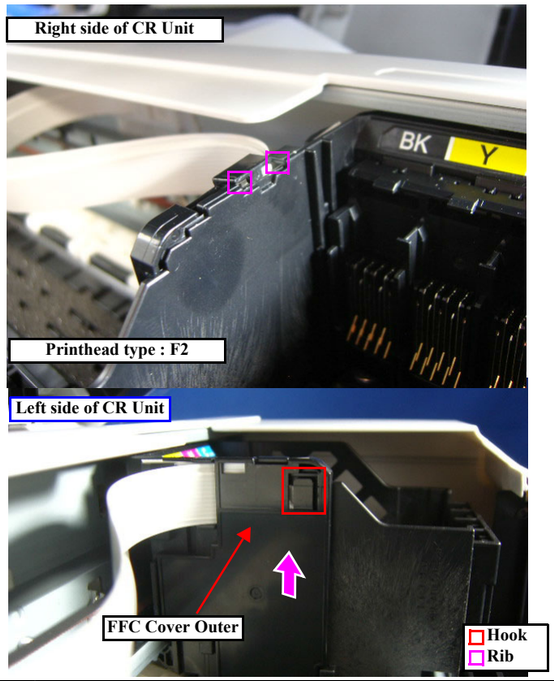
When attaching the Reflector PIS Assy to the CR Unit, confirm the Reflector PIS Holder cannot be seen through the hole on the bottom of the CR Unit. Otherwise, the Reflector PIS Assy has not been installed correctly, so make sure to install the Reflector PIS Assy properly again.

FFC Cover Outer(F2 Type)

- Slide and remove the FFC Cover Outer in the direction of the arrow while releasing the hook.
- When removing the FFC Cover Inner, release the hook first, and then lift it in the direction of the arrow while disengaging the rib of it from the hole of the CR Unit.

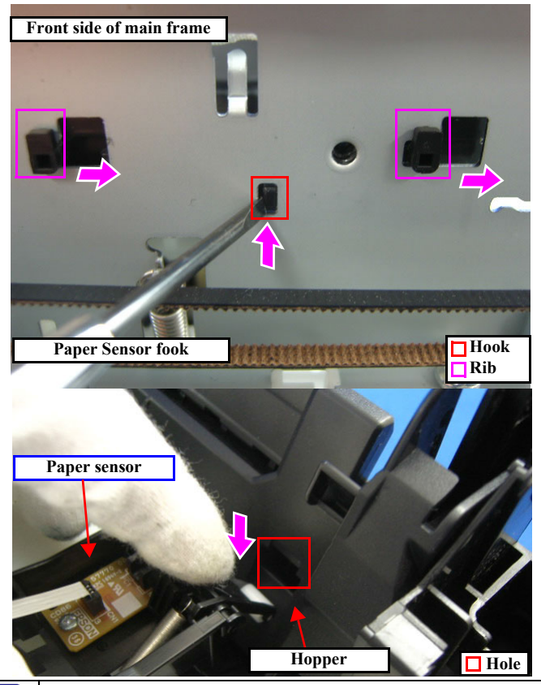
Confidential

FFC Cover Outer(F2 Type)



Slide and remove the FFC Cover Outer in the direction of the arrow while releasing the ribs and hook.

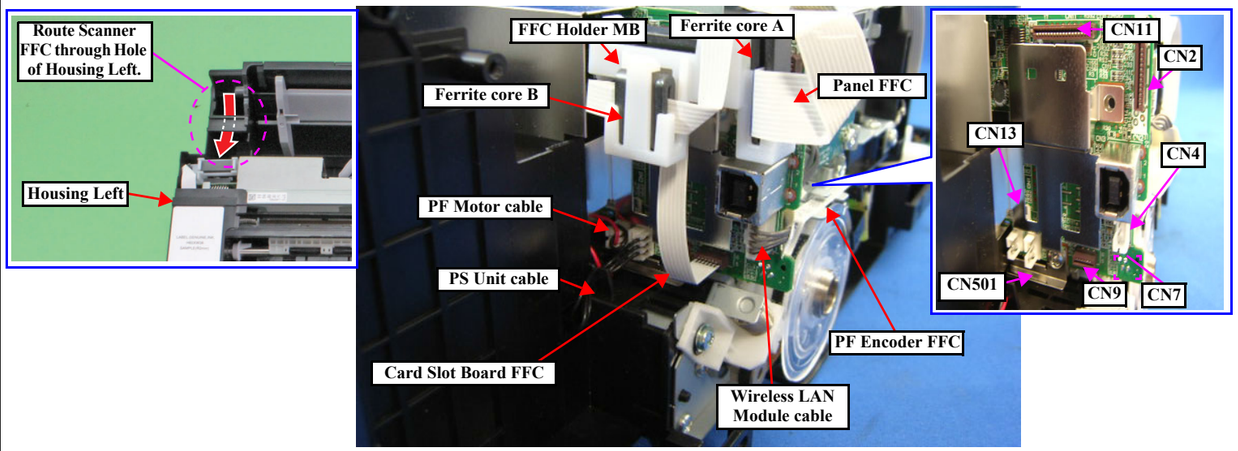
Paper Sensor Unit (XP-430/330/432/332/440/340/442/342 series)



Slide and remove the Paper Sensor in the direction of the arrow while releasing the ribs and hook.

2.4 Routing FFCs/cables

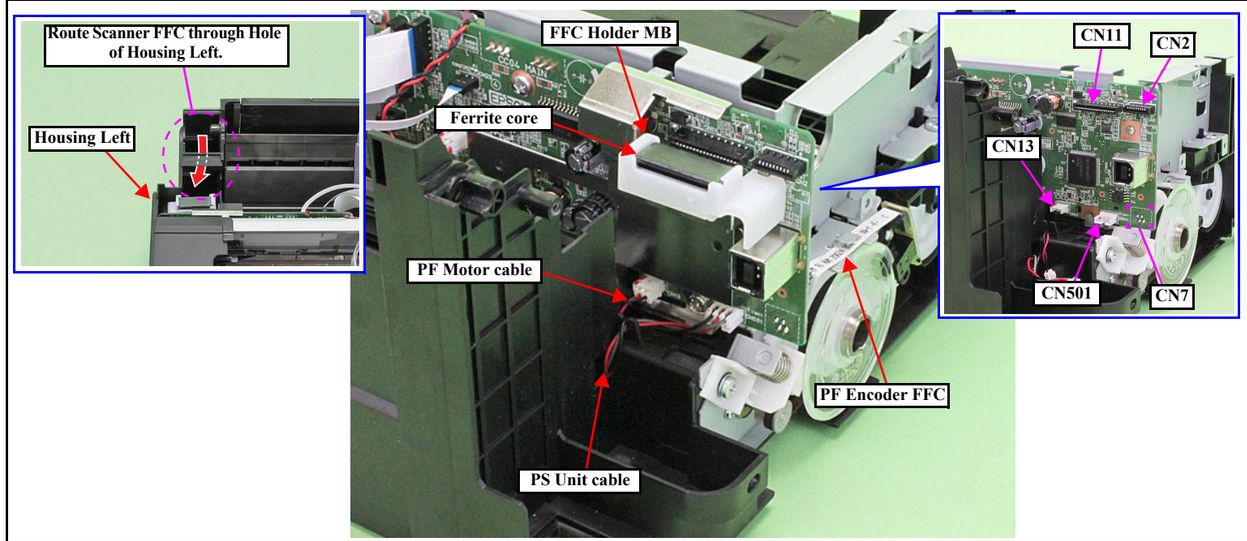
Left side of Main Board (Separated Scanner and Panel Type)



Connect the following cables/FFCs to the Main Board as shown in the figure above.

- PF Motor cable (CN13)
- PS Unit cable (CN501)
- PF Encoder FFC (CN7)
- Wireless LAN Module cable (Model with wireless LAN only)
- Panel FFC (CN2)
  Attach the ferrite core A to the FFC Holder MB, and route the FFC through the ferrite core A and connect it to the Main Board.
- Scanner FFC (CN11)
  Attach the ferrite core B to the FFC Holder MB, and route the FFC through the hole of the Housing Left and the ferrite core B, and then connect it to the Main Board.
- Card Slot Board FFC (CN9)

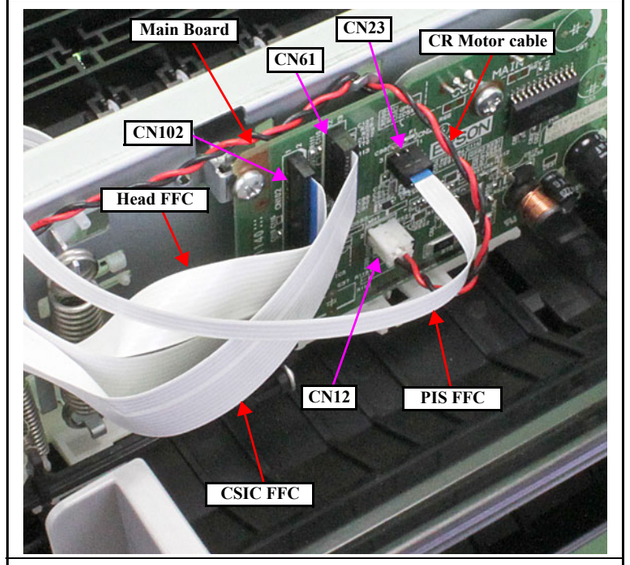
Left side of Main Board (Integrated Scanner and Panel Type)



Connect the following cables/FFCs to the Main Board as shown in the figure above.

- PF Motor cable (CN13)
- PS Unit cable (CN501)
- PF Encoder FFC (CN7)
- Panel FFC (CN2)
  Route the FFC through the ferrite core and connect it to the Main Board.
- Scanner FFC (CN11)
  Attach the ferrite core to the FFC Holder MB, and route the FFC through the hole of the Housing Left and the ferrite core, and then connect it to the Main Board.

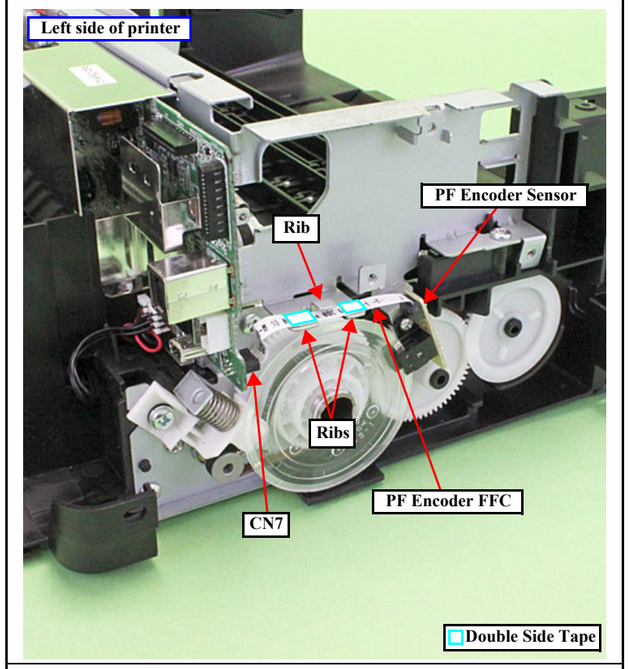
Right side of Main Board



Connect the following cables/FFCs to the Main Board as shown in the figure above.

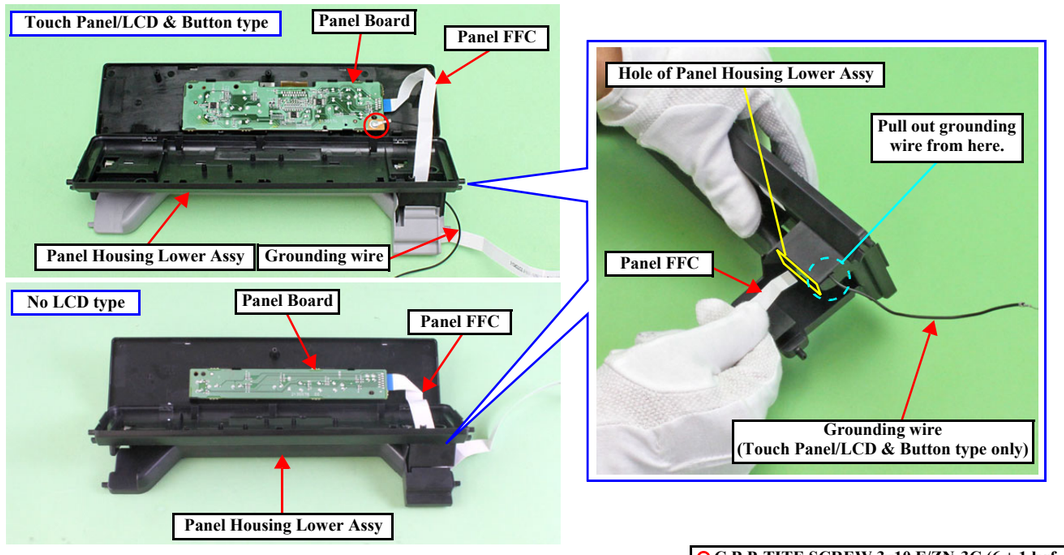
- CR Motor cable (CN12)
- CSIC FFC (CN6)
- Head FFC (CN102)
- PIS FFC (CN23)
  Route the PIS FFC over the Head FFC and CSIC FFC.

PF Encoder Sensor



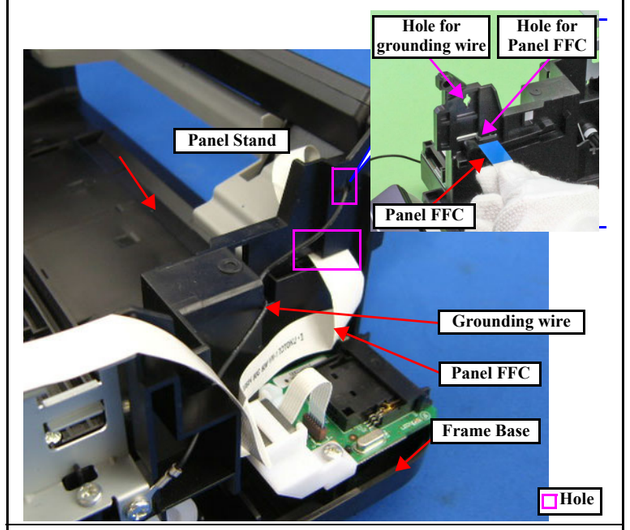
Route the PF Encoder FFC through the ribs (x2) of the Main Frame and connect it to the connector (CN7) on the Main Board, and then secure it with double-sided tape (x2) on the positions shown in the figure above.

Inside the Panel Unit (Separated Scanner and Panel Type)


Touch Panel/LCD & Button type
Panel Board
Panel FFC
Panel Housing Lower Assy
Grounding wire
No LCD type
Panel Board
Panel FFC
Panel Housing Lower Assy
Hole of Panel Housing Lower Assy
Pull out grounding wire from here.
Panel FFC
Grounding wire (Touch Panel/LCD & Button type only)
C.B.P-TITE SCREW 3x10 F/ZN-3C (6 ± 1 kgf·cm)

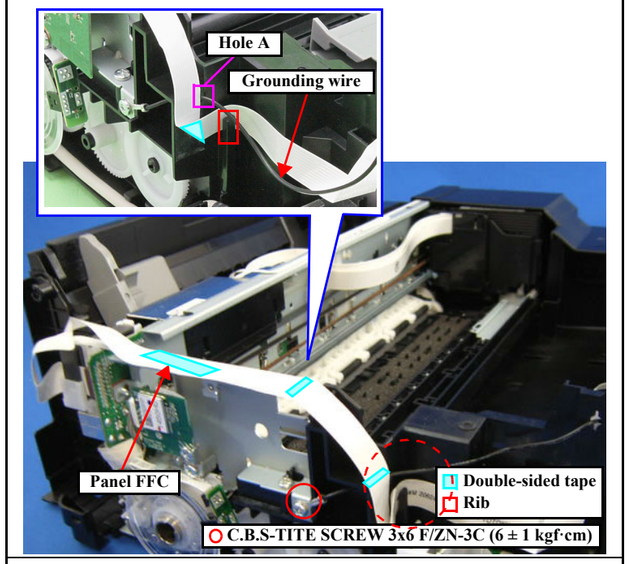
- Route the Panel FFC through the hole of the Panel Housing Lower Assy with its terminal side upward as shown in the figure above.
- Fold the Panel FFC aligning it with its folded lines, and then connect the FFC to the connector (CN1) on the Panel Board firmly.
- Secure the grounding wire to the Panel Board with the screw, and pull it out from the hole of the Panel Housing Lower Assy. (**Touch Panel/LCD & Button type** only)

Panel Unit (1) (Separated Scanner and Panel Type)



- Route the Panel FFC and grounding wire (Touch Panel/LCD & Button type only) as follows before installing the Panel Unit.
  - Route the Panel FFC through the hole of the Frame Base as shown above with the side with the stiffener upward.
  - Pull out the grounding wire from the hole of the Frame Base shown above. (Touch Panel/LCD & Button type only)
- Before installing the Panel Unit, make sure that the Panel FFC is routed correctly without any part getting caught.

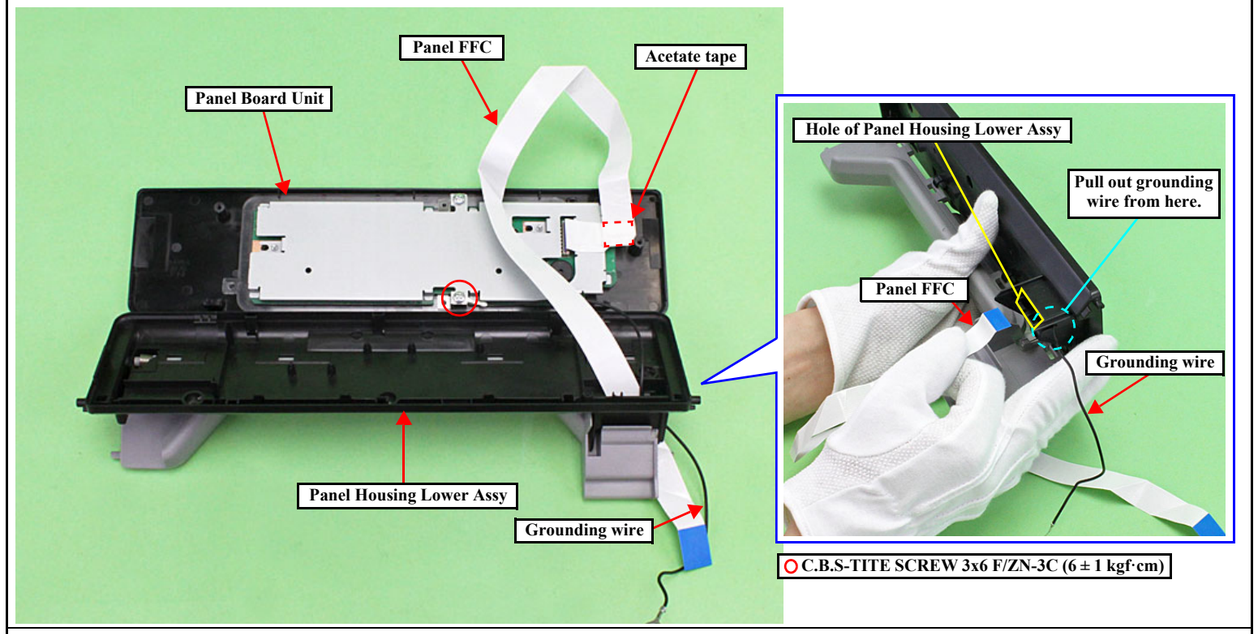
Panel Unit (2) (Separated Scanner and Panel Type)



After installing the Panel Unit, route the Panel FFC and grounding wire pulled out from the hole of the Frame Base as follows.

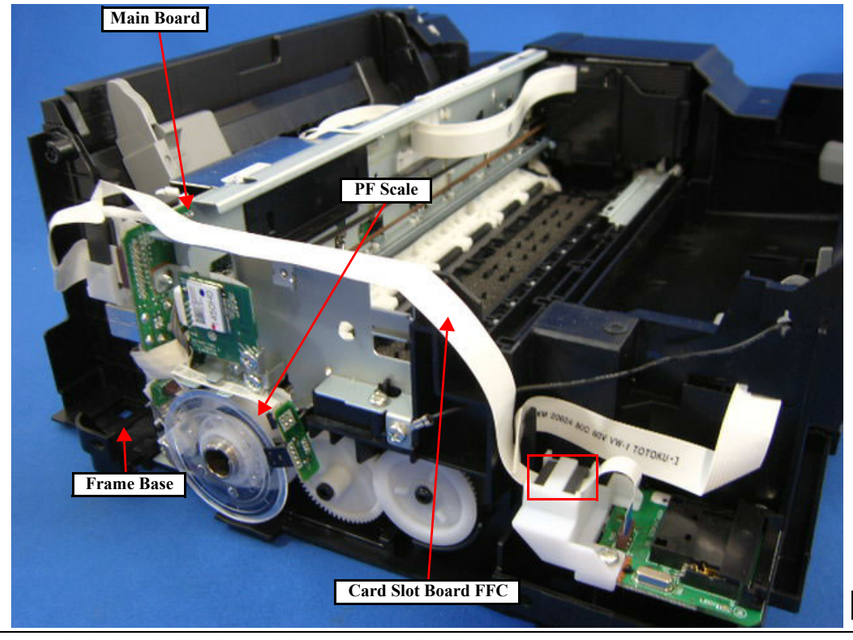
- Route Panel FFC through the ribs (x1) of the Frame Base and Main Frame with folded along the fold line, and then secure it with double-sided tape on the position shown in the figure above.
- Route the grounding wire through the hole A of the Frame Base, and secure it to the Main Frame with the screw.(Panel/LCD & Button type only)

Inside the Panel Unit (Touch Panel Type)



- Route the Panel FFC through the hole of the Panel Housing Lower Assy with its side with the stiffener upward as shown in the figure above.
- Fold the Panel FFC aligning it with its folded lines and attach acetate tape as shown above, and then connect the FFC to the connector (CN1) on the Panel Board firmly.
- Secure the grounding wire to the Panel Board with the screw, and pull it out from the hole of the Panel Housing Lower Assy.

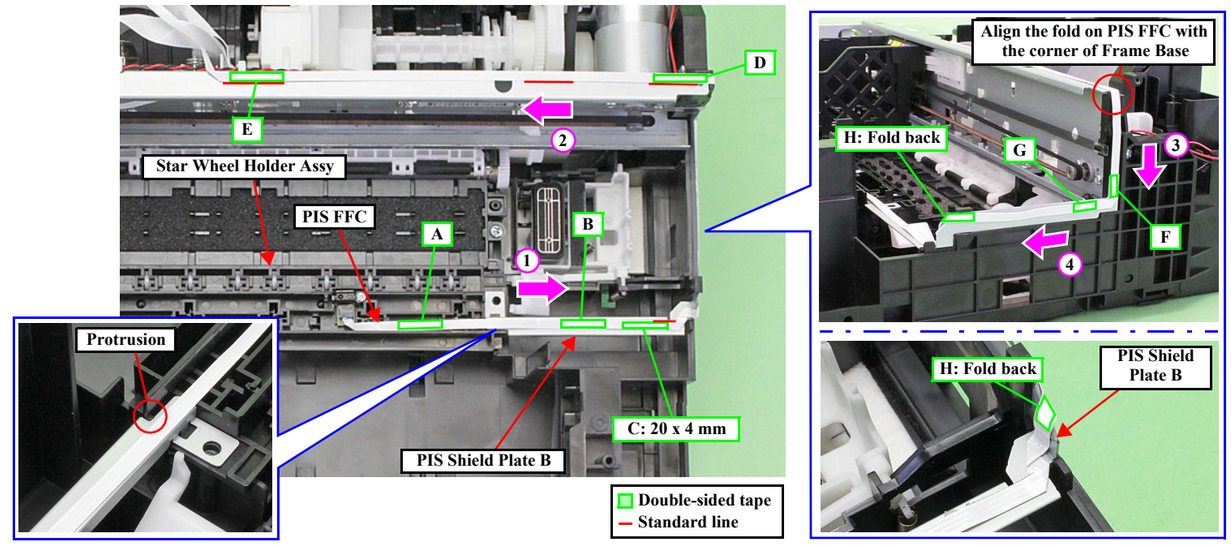
Card Slot Board (Model with Card Slot)



Ferrite Core

- When routing the Card Slot Board cable, be careful not to damage the PF Scale.
- Route the Card Slot Board FFC through the ribs (x4) of the Frame Base.
- Connect the connectors on both ends of the Card Slot Board FFC to the Card Slot Board (CN3) and Main Board (CN9) firmly. (p 52)

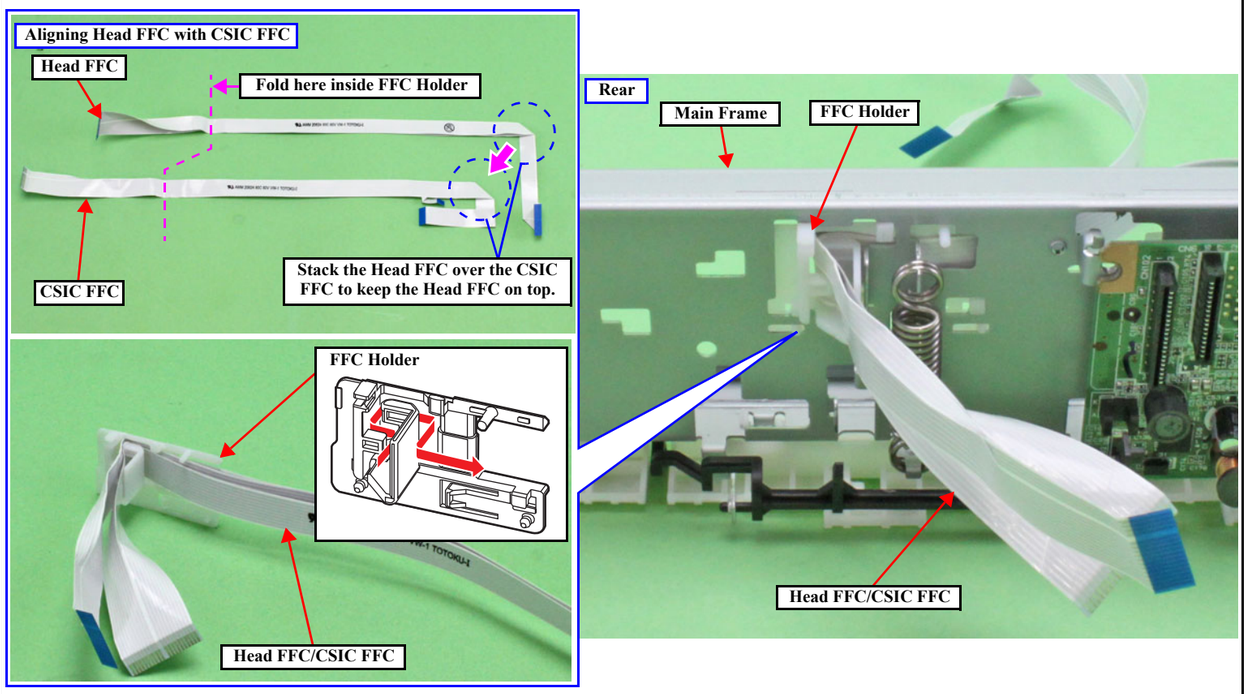
PIS FFC



Route the PIS FFC/cable as follows

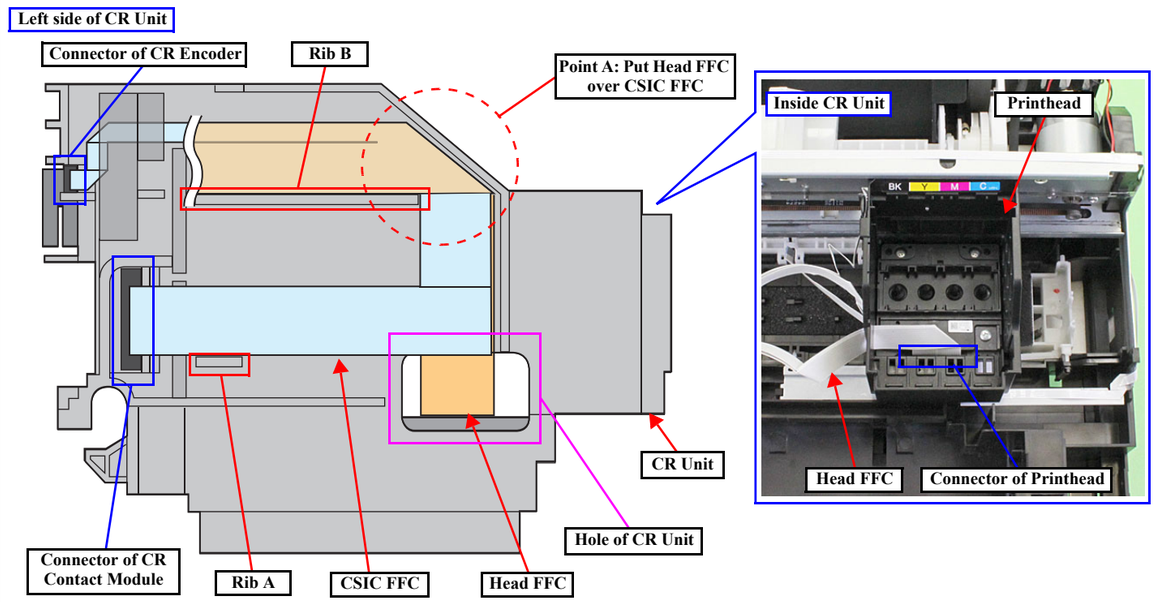
1. Align the PIS FFC to the standard line on the PIS Shield Plate B, and route it in the direction of arrow (1) taking care not to let it cover the protrusion of the Star Wheel Holder Assy, then secure the FFC with double sided tape in the order from A to C shown above.
2. Align the fold on the PIS FFC with the corner of the Frame Base, and route the FFC along the standard line on the Main Frame in the direction of arrow (2), then secure the FFC with double sided tape in the order of D and E shown above.
3. From the fold on the PIS FFC aligned in Step 2, route the FFC in the direction of arrow (3), and secure it with double sided tape at F shown above.
4. Route the PIS FFC in the direction of arrow (4), and secure it with double sided tape in the order of G and H shown above.

Head FFC (Routing on the Main Frame)



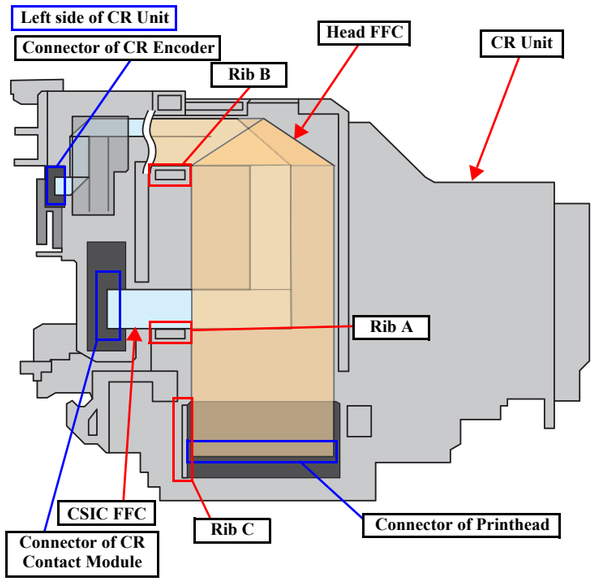
Align the Head FFC and CSIC FFC, and then route them through the FFC Holder as shown in the figure above.

Head FFC (Routing on the CR Unit, Printhead Type: O2)



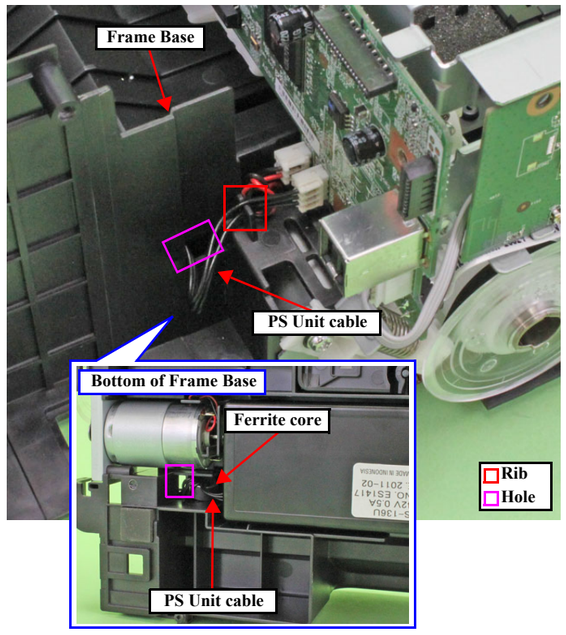
- Route the CSIC FFC through the rib A and rib B, and then connect it to the connectors of the CR Encoder and CR Contact Module.
- Route the Head FFC along the rib B and fold it at the point A shown above, then cover the CSIC FFC.
- Taking care not to damage the Head FFC, route it through the hole on the CR Unit and connect it to the connector on the Printhead.

Head FFC (Routing on the CR Unit, Printhead Type: F2)



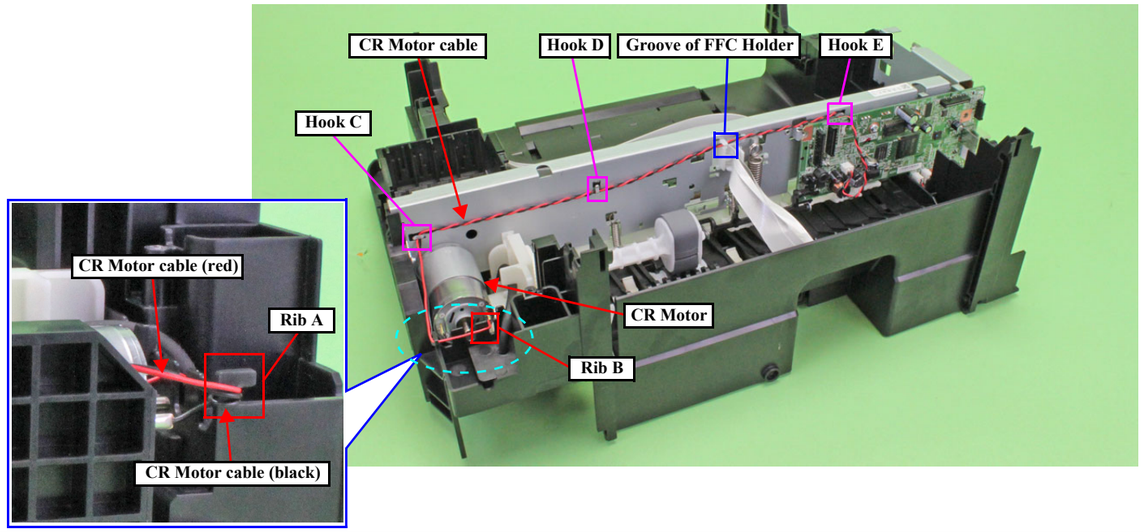
- Route the CSIC FFC through the rib A and rib B, and then connect it to the connectors of the CR Encoder and CR Contact Module.
- Route the Head FFC through the rib B and C, and then connect it to the connector of the Printhead.

PS Unit



- Pull out the PS Unit cable from the hole of the Frame Base first, and then route it through the rib of the Frame Base.
- Put the ferrite core into the position shown in the figure above.

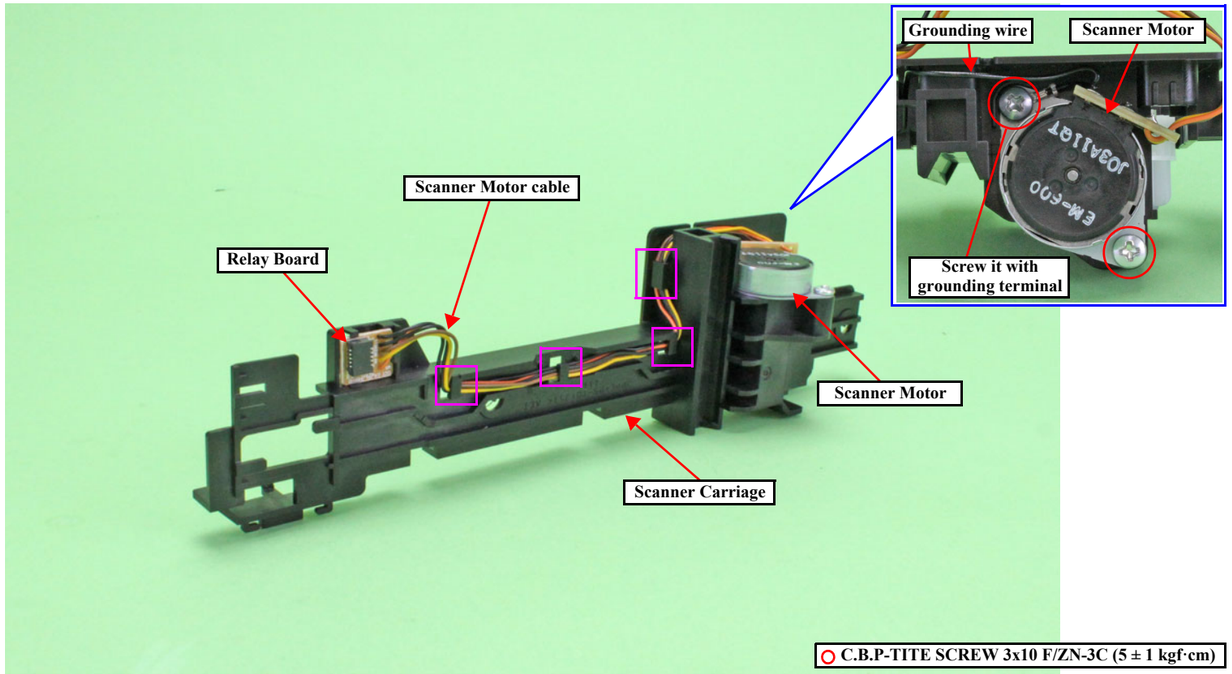
CR Motor



Route the CR Motor cable as follows before installing the Shield Plate.

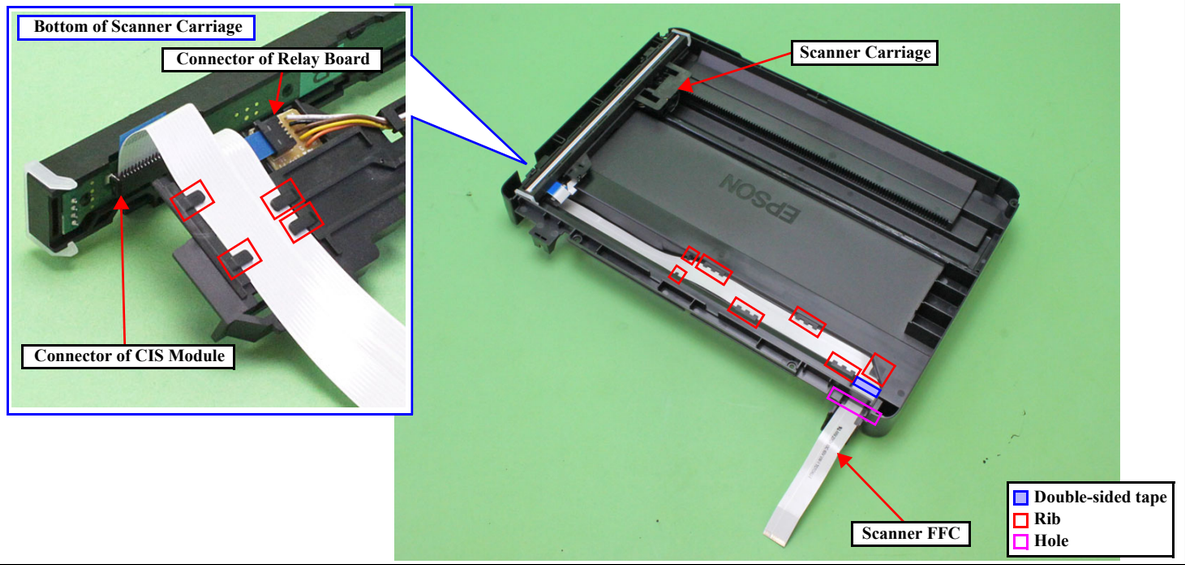
1. Route the CR Motor cable (black) around the rib A of the Frame Base (two turns).
2. Route the CR Motor cable (red) through the rib B of the Frame Base, and then route it through the rib A taking care not to let the CR Motor cable (red) come over the CR Motor cable (black).
3. Twist the CR Motor cable (black) and CR Motor cable (red) twice, and then route them through the hook C of the Main Frame.
4. Route the CR Motor cable (black) and CR Motor cable (red) in the order of hook D of the Main Frame, groove of the FFC Holder, and hook E of the Main Frame.

Scanner Motor



- Route the Scanner Motor cable through the hooks (x4) of the Scanner Motor as shown above.
- Secure the grounding wire of the Relay Board and the Scanner Motor together with the screw as show above.

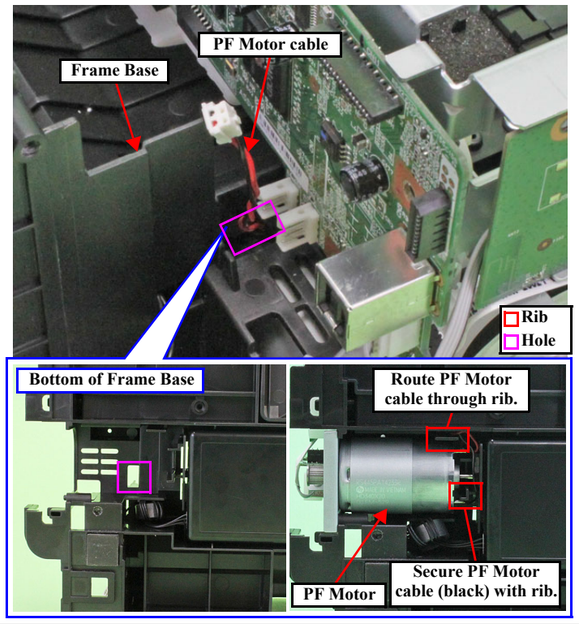
Scanner FFC



Route the Scanner FFC as follows.

1. Insert the Scanner FFC through the hole of the Scanner Housing Lower in the direction shown above, and then secure the FFC with double-sided tape on position shown in the figure above.
2. Route the FFC through the ribs (x7) of the Scanner Housing Lower taking care not to damage the FFC.
3. Route the FFC through the ribs (x5) on the bottom of the Scanner Carriage taking care not to damage the FFC.
4. Connect the Scanner FFC to the Relay Board and CIS Module as shown above.

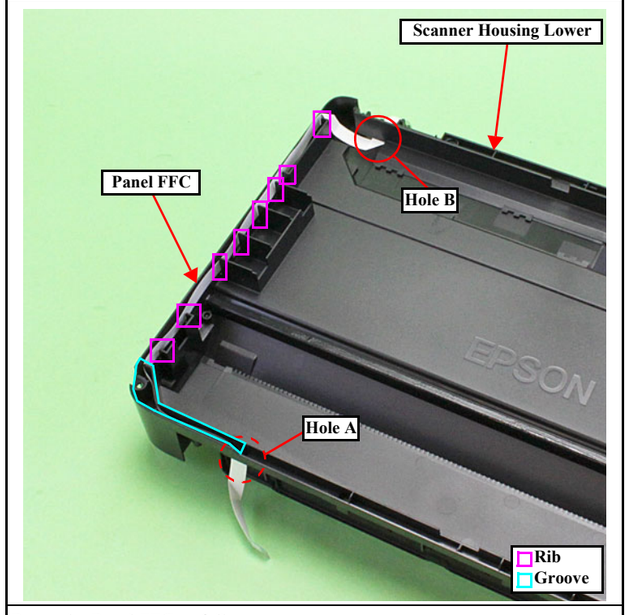
PF Motor



Route the PF Motor cable as follows.

1. Pull out the PF Motor cable from the hole of the Frame Base.
2. Install the PF Motor, and secure the PF Motor cable (black) with the rib of the Frame Base, and then route it through the rib of the Frame Base.

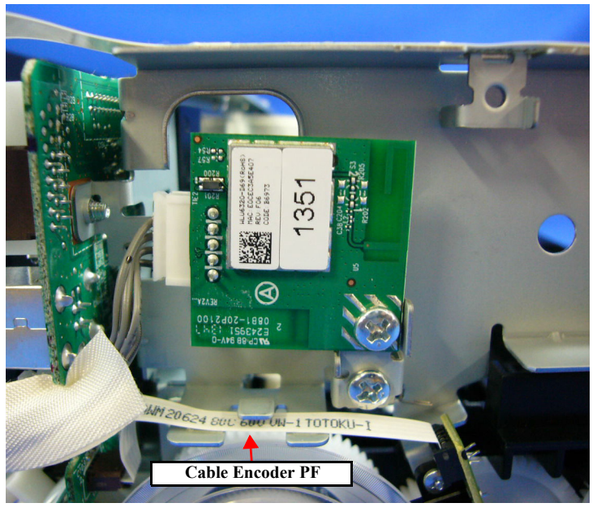
Panel FFC (Integrated Scanner and Panel Type)



Route the Panel FFC as follows.

1. Insert the Panel FFC into the hole A of the Scanner Housing Lower.
2. Route the Panel FFC through the groove and ribs (x8) of the Scanner Housing Lower, and then insert the FFC into the hole B on the Scanner Housing Lower.

Cable Encoder PF



Route the Cable Encoder PF as follows.

1. ICheck that “HOLDER, WIFI” don’t touch to “Cable ENCODER, PF.

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CHAPTER **3**

ADJUSTMENT

3.1 Required Adjustments

The table from the following page lists the required adjustments depending upon the parts being repaired or replaced. Find the part(s) you removed or replaced, and check which adjustment(s) must be carried out.

- **If the EEPROM data cannot be read out from the old Main Board using the Adjustment Program when replacing the Main Board is required, the Waste Ink Pad Assy must be replaced with the Main Board at the same time.**
- **After all required adjustments are completed, use the "Final check pattern print" function to print all adjustment patterns for final check. If you find a problem with the printout patterns, carry out the adjustment again.**
- **When replacing the Main Board, the adjustment should be made after performing the initial setting.**

- **In this chapter, the product names are called as follows:**
  - **XP-231 series: XP-231**
  - **XP-432 series: XP-432/XP-435**
  - **XP-235 series: XP-235/XP-235A**
  - **XP-332 series: XP-332/XP-332A/XP-335**
  - **XP-430 series: XP-430/XP-431/XP-434**
  - **XP-330 series: XP-330/XP-334**
  - **XP-440 series: XP-440/XP-441/XP-446**
  - **XP-240 series: XP-240/XP-241**
  - **XP-340 series: XP-340/XP-344**
  - **XP-442 series: XP-442/XP-445**
  - **XP-245 series: XP-243/XP-245/XP-247**
  - **XP-342 series: XP-342/XP-343/XP-345**
  - **XP-452 series: XP-452/XP-455**
  - **XP-452 series: XP-255/XP-257**
  - **XP-352 series: XP-352/XP-355**
  - **XP-2100 series: XP-2100/XP-2101/XP-2105/XP-2106/XP-2150/XP-2155**
  - **XP-2200 series: XP-2200/XP-2205**

- **The table items and marks used in the "Required Adjustment List" provided on the following pages have the following meanings.**
  - **"O" indicates that the adjustment must be carried out.**
  - **"---" indicates that the adjustment is not required.**
  - **The "Mechanism Adjustment" should be performed just after reinstalling or reassembling the part or unit.**
  - **The "Adjustments using the Adjustment Program" need to be performed after reassembling the printer completely.**
- **If you have removed or replaced multiple parts, make sure to check the required adjustments for the all parts. And when multiple adjustments must be carried out, be sure to carry out them in the order given in the "Priority" row.**

3.2 Adjustment Program

This section provides the operating environment, functions related to safety and privacy policy, and the adjustment item newly added of the Adjustment Program. See "3.1 Required Adjustments (p57)" for the adjustments not explained here.

3.2.1 Operating Environment

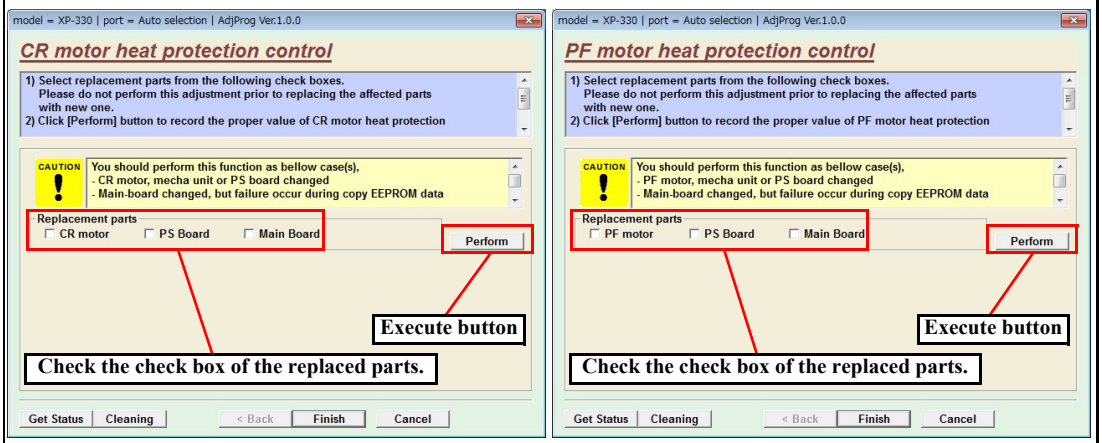
The operating environment for the Adjustment Program is as follows.

- ☐ OS: Windows 10 , 11
- ☐ Interface: USB

3.2.2 Details of the Adjustment Program

Refer to the guide in the Adjustment Program for the details of the procedure.

3.2.2.1 CR Motor Heat Protection Control / PF Motor Heat Protection Control

Purpose	To measure the manufacturing variations of the DC motors (CR Motor/PF Motor), Main Board and Power Supply Board to determine the correction value used for estimating the current values of the motors.
Risks if the adjustment is not correctly made	The printer cannot measure the current value of motor correctly, then the heat generation caused by motor drive cannot be estimated accurately either, and which may results in trouble such as incorrect control of motors when allotting a cool down period according to each heat generation. In the worst case, excessive heat generation may cause smoke or ignition.
Procedure	1. Select from the menu of the Adjustment Program. Check the check box of the replaced parts and press the “Execute” button to measure the correction value. 2. The correction value is automatically measured and the measurement value is written to the EEPROM on the Main Board.
Adjustment Program screen	
Remarks	---

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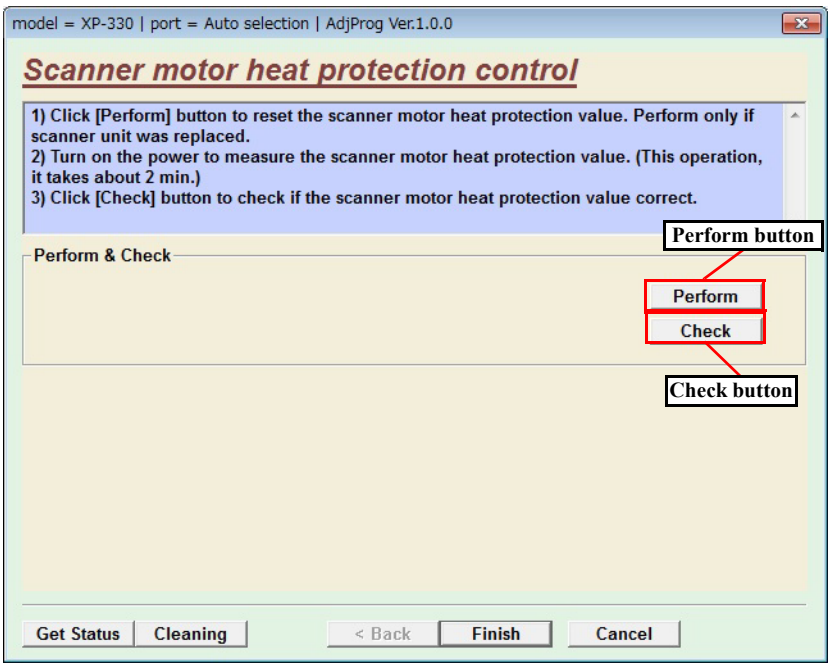
3.2.2.2 Scanner Motor Heat Protection Control

Purpose	To measure the manufacturing variation of the DC motor (Scanner) to determine the correction value used for estimating the current value of the motor.
Risks if the adjustment is not correctly made	Because the printer cannot measure the current value of the motor accurately, even if just a mechanical load with which the Scanner Carriage can operate without any problem is applied, the printer cannot control the drive of the motors correctly, which may result in occurrence or generation of scanner fatal error, vibration, or noises.
Procedure	1. Select from the menu of the Adjustment Program and press the "Perform" button to measure the correction value. 2. Turn off the printer and turn it back on. After the Scanner Carriage is operated, the correction value is automatically measured and the measurement value is written to the EEPROM on the Main Board. 3. Press the "Check" button to confirm the written value in the EEPROM is within the standard range.
Adjustment Program screen	
Remarks	---

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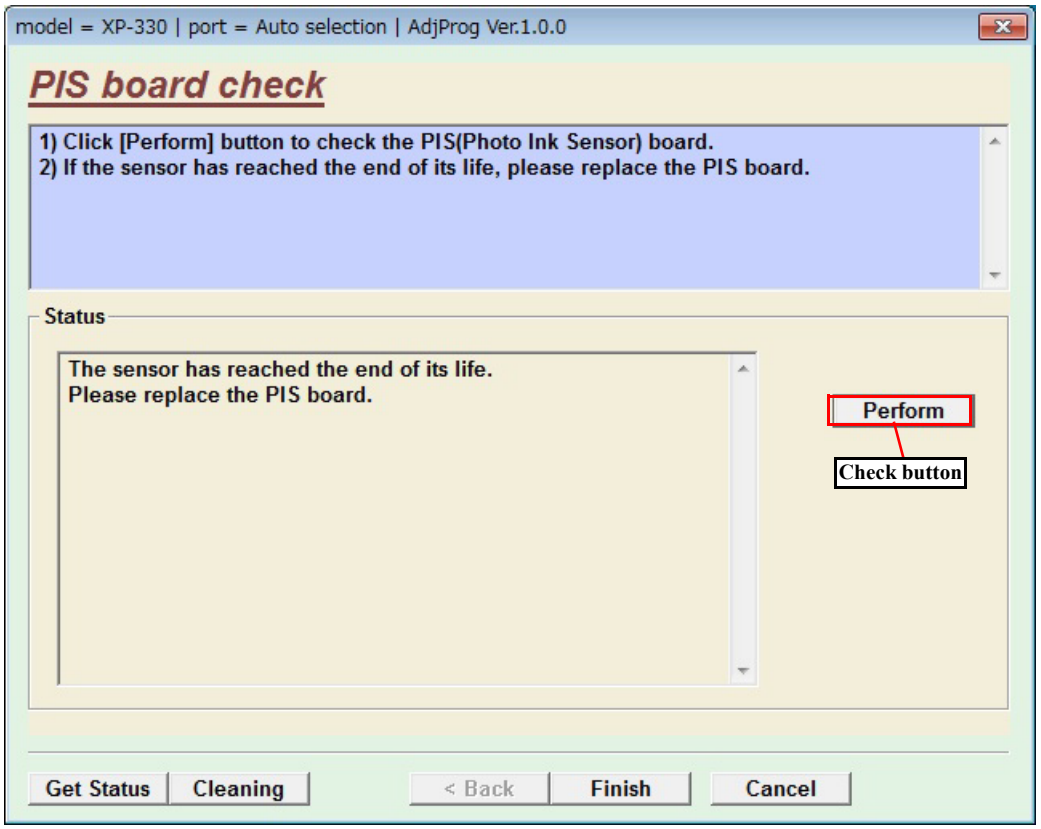
3.2.2.3 PIS Board Check

Purpose	Photo Ink Sensor degradation and failure check.
Risks if the adjustment is not correctly made	If number of printing sheets increases, ink mist adheres to a sensor and the quantity of light of a sensor falls off by becoming dirty, so that it is necessary to exchange PIS Board Assy (BOARD ASSY,.SUB). By checking with a adjustment program, it is judged whether it is necessary to exchange PIS Board Assy (BOARD ASSY,.SUB) simultaneously at the time of head exchange.
Procedure	1. Set the ink cartridges.(The cartridges which is not ink end condition is used.) 2. Close the scanner & Printer Cover. 3. Carry out a Photo Ink Sensor inspection with a Adjustment program. 4. If the message to which exchange of a PIS board Assy (BOARD ASSY., SUB) is urged is displayed, it is judged that Photo Ink Sensor is in a degradation state.
Adjustment Program screen	
Remarks	**Please close the Scanner & Printer Cover in order to perform this correctly when executing PIS Board check.**

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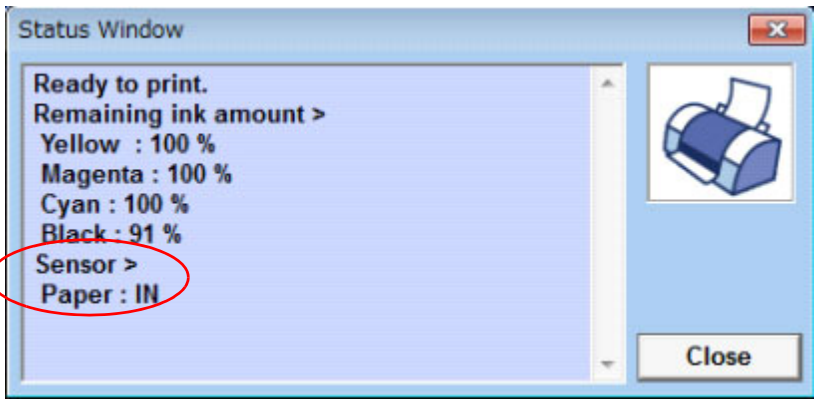
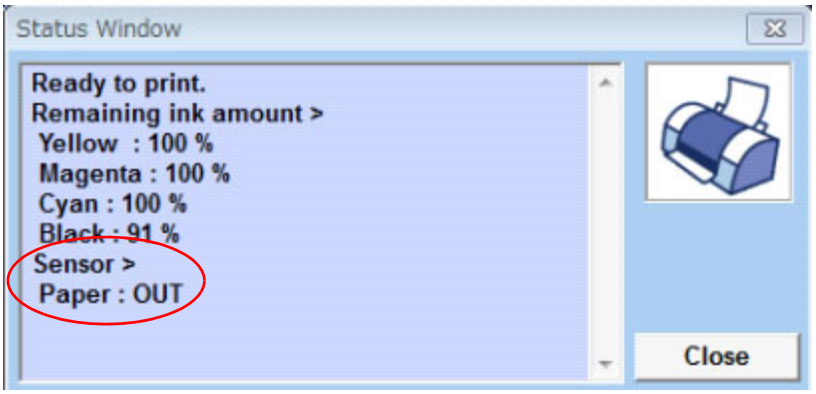
3.2.2.4 Paper Sensor Check (XP-430/XP-330/XP-432/XP-332 series)

Purpose	Paper Sensor failure check.
Procedure	1. Excute a Paper Sensor inspection(Get status) with a Adjustment program. 2. Perform inspection using plain paper. 3. Set the Plain Paper. (Paper : IN) 4. Remove the Plain Paper. (Paper : OUT) 5. Check if "Paper" status correctly changes according to set and removal of the plain paper.
Adjustment Program screen	 Check button Set the plain Paper.  Remove the plain Paper. 
Remarks	-----

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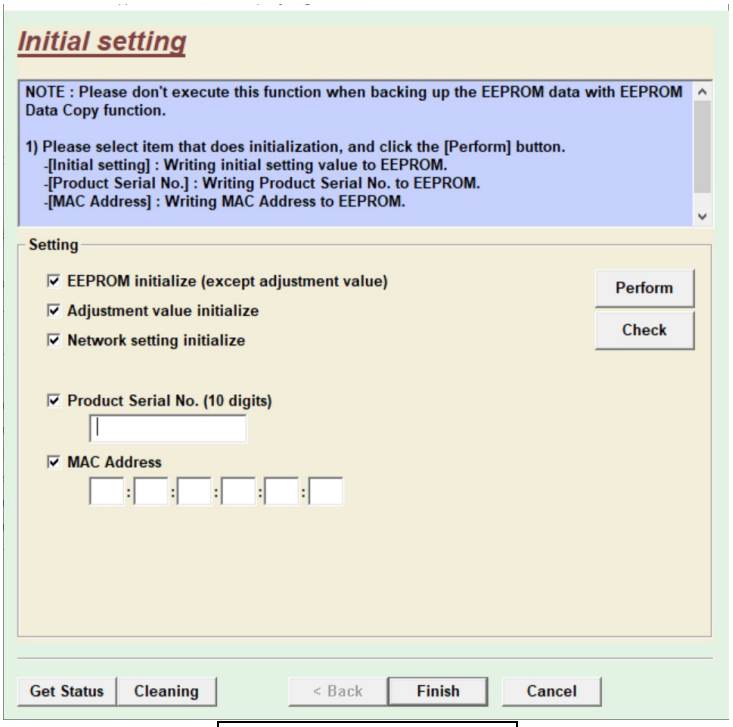
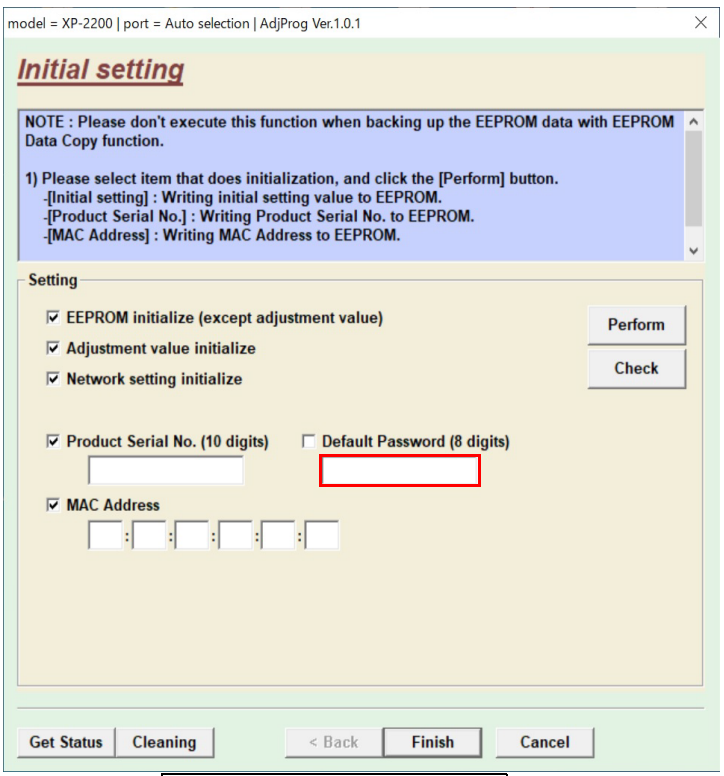
3.2.2.5 Initial Setting

Purpose	This must be carried out after replacing the Main Board to apply settings for the target market, etc. Perform MAC address setting and default password setting if necessary.
Procedure	Enter the product serial number of the printer using the adjustment program, and write the initial setting information onto the Main Board. If the printer has a password label attached, set the password to the default password on the label.
Adjustment Program screen	 **For Except Euro**  **For Euro**
Remarks	-----

Initial setting
NOTE : Please don't execute this function when backing up the EEPROM data with EEPROM Data Copy function.
1) Please select item that does initialization, and click the [Perform] button.
-[Initial setting] : Writing initial setting value to EEPROM.
-[Product Serial No.] : Writing Product Serial No. to EEPROM.
-[MAC Address] : Writing MAC Address to EEPROM.
Setting
EEPROM initialize (except adjustment value)
Adjustment value initialize
Network setting initialize
Perform
Check
Product Serial No. (10 digits)
MAC Address
Get Status
Cleaning
< Back
Finish
Cancel

model = XP-2200 | port = Auto selection | AdjProg Ver.1.0.1
Initial setting
NOTE : Please don't execute this function when backing up the EEPROM data with EEPROM Data Copy function.
1) Please select item that does initialization, and click the [Perform] button.
-[Initial setting] : Writing initial setting value to EEPROM.
-[Product Serial No.] : Writing Product Serial No. to EEPROM.
-[MAC Address] : Writing MAC Address to EEPROM.
Setting
EEPROM initialize (except adjustment value)
Adjustment value initialize
Network setting initialize
Perform
Check
Product Serial No. (10 digits)
Default Password (8 digits)
MAC Address
Get Status
Cleaning
< Back
Finish
Cancel

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3.3 Mechanism Adjustment / Check

This section provides the procedure for the mechanism adjustment and check.

3.3.1 Checking the Platen Gap

This section describes the procedure for checking the platen gap (PG).

- **This printer does not have any PG adjustment mechanism, however, it is designed so that the platen gap can fall within the expected range if you correctly reassemble the unit (including using the Epson-specified jigs) according to this manual. If the PG cannot fall within the standard range after performing the platen gap check described in this section, first check if the unit is correctly reassembled following the instructions in this manual. Even if the unit is correctly reassembled but the PG still cannot fall within the standard range, replace the unit with a new/refurbished one.**
- **The standard range of the PG is as follows:**
  - **Standard: 1.75 ± 0.25 mm**

☐ Tools

- Thickness gauge: 1.5 mm (x2), 2.0 mm (x2)

☐ Confirmation procedure

When checking the PG, make sure of the following.

- **Check the PG with new ink cartridges installed to the CR Unit, and also with all parts related to the PG installed to the printer (p 57).**
- **Move the CR Unit by pulling the CR Timing Belt.**
- **Be careful not to damage the nozzles of the Printhead with the thickness gauge.**
- **Confirmation procedure differs depending on the mounted printhead. Therefore, make sure to confirm which printhead is mounted and check the platen gap accordingly. (p 33)**

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☐ Printhead type: F2

1. Move the CR Unit to the center of the printer.
2. Place the thickness gauges (1.5 mm) on the position A shown in Figure 3-1.

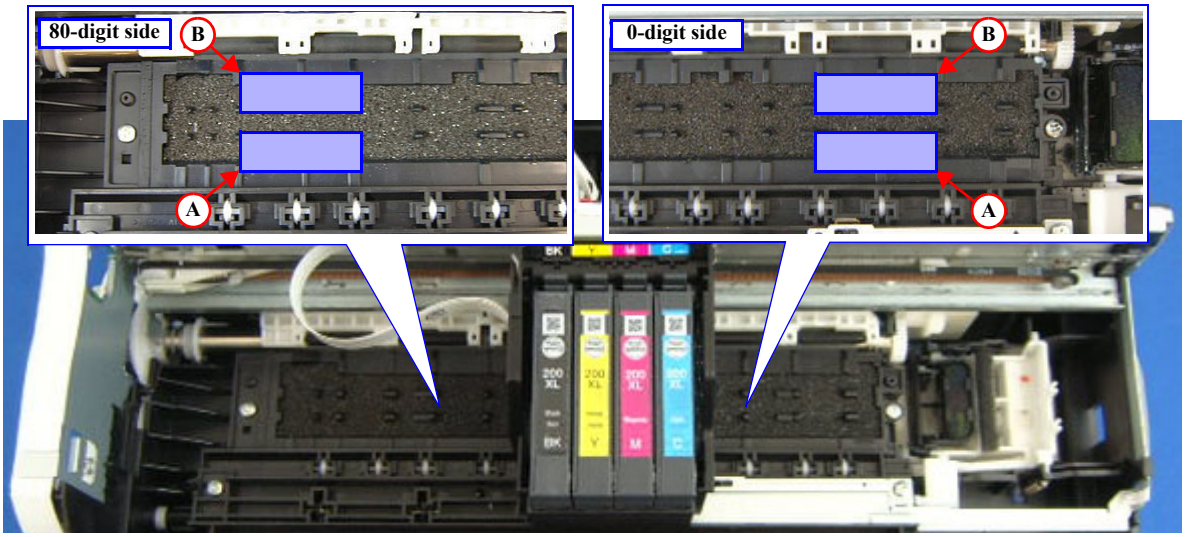

Figure 3-1. Position of the Thickness Gauge

3. Pull the CR Timing Belt to move the CR Unit to both ends and confirm the CR Unit does not touch the thickness gauges.*1
4. Move the CR Unit to the center, and place the thickness gauges (1.5 mm) on the position B shown in Figure 3-1.
5. Pull the CR Timing Belt to move the CR Unit to both ends and confirm the CR Unit does not touch the thickness gauges.*1
6. Move the CR Unit to the center, and place the thickness gauges (2.0 mm) on the position A shown in Figure 3-1.
7. Pull the CR Timing Belt to move the CR Unit to both ends and confirm the CR Unit touches the thickness gauges. *2
8. Move the CR Unit to the center, and place the thickness gauges (2.0 mm) on the position B shown in Figure 3-1.
9. Pull the CR Timing Belt to move the CR Unit to both ends and confirm the CR Unit touches the thickness gauges. *2

Note "*1": If the CR Unit comes in contact with the thickness gauges, the PG is smaller than the standard value, therefore, check if the unit is correctly reassembled. If not, reassemble the unit and perform PG check again. (If the unit is correctly reassembled, replace the unit with a new/refurbished one.)

"*2": If the CR Unit does not come in contact with the thickness gauges, the PG is greater than the standard value, therefore, check if the unit is correctly reassembled. If not, reassemble the unit and perform PG check again. (If the unit is correctly reassembled, replace the unit with a new/refurbished one.)

☐ Printhead type: O2

1. Move the CR Unit to the center of the printer.
2. Place the thickness gauges (1.5 mm) on the positions shown in Figure 3-2.

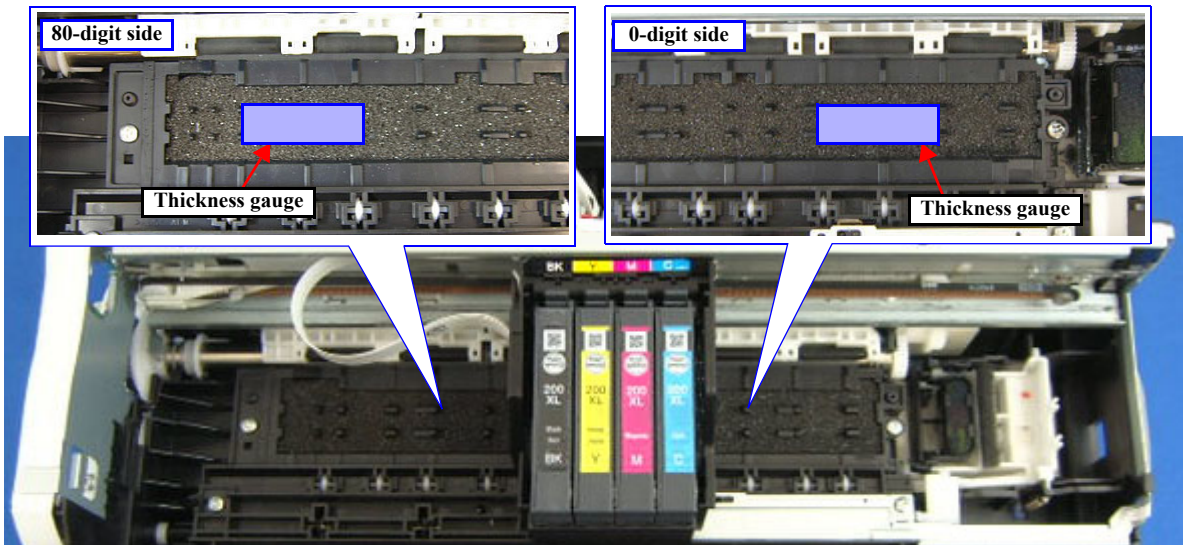

Figure 3-2. Position of the Thickness Gauge

3. Pull the CR Timing Belt to move the CR Unit to both ends and confirm the CR Unit does not touch the thickness gauges.
4. Move the CR Unit to the center, and replace the thickness gauges (1.5 mm) with the thickness gauges (2.0 mm) on the same positions as Step 2.
5. Pull the CR Timing Belt to move the CR Unit to both ends and confirm the CR Unit touches the thickness gauges.

Note "*1": If the CR Unit comes in contact with the thickness gauges, the PG is smaller than the standard value, therefore, check if the unit is correctly reassembled. If not, reassemble the unit and perform PG check again. (If the unit is correctly reassembled, replace the unit with a new/refurbished one.)

"*2": If the CR Unit does not come in contact with the thickness gauges, the PG is greater than the standard value, therefore, check if the unit is correctly reassembled. If not, reassemble the unit and perform PG check again. (If the unit is correctly reassembled, replace the unit with a new/refurbished one.)

3.3.2 CR/PF Belt Tension Check

This section describes the CR/PF Belt tension check.

- **This printer is designed so that the each tension of the CR Timing Belt and PF Timing Belt fall within the expected range if you correctly reassemble the unit according to this manual. However, deformation of any related part(s) can cause improper tension of the belt. In such case, replace the unit with a new/refurbished one.**
- **The standard tension range is as follows:**
  - **CR Timing Belt: 5.7 ± 1.4 N**
  - **PF Timing Belt**
    Separated Scanner and Panel type: 4.5 ± 1.5 N
    Integrated Scanner and Panel type: 2.4 N or more

☐ Tools

- Sonic tension meter
- Plastic tweezers

☐ Confirmation procedure

When performing the CR/PF Belt tension check, make sure of the following.

- **Bring the microphone of the sonic tension meter within 5 mm from the timing belt but do not let it touch the belt.**
- **Flip the timing belt as weak as the sonic tension meter can measure it.**
- **Be careful not to damage the timing belt when flipping it with the plastic tweezers.**

Checking the CR Timing Belt Tension

Perform the CR Belt tension check after performing " 3.3.1 Checking the Platen Gap (p63)".

1. Move the CR Unit to 0-digit side.
2. Set the following parameters to the sonic tension meter:
   - Weight: 0.011 kg/m
   - Width: 3 mm
   - Span: 326 mm
3. Bring the microphone of the sonic tension meter close to the position shown in Figure 3-3.
4. Press the “MEASURE” button of the sonic tension meter and flip the upper of the CR Timing Belt with plastic tweezers and measure the tension of the belt three times.
5. Check the average of the measured values falls within the standard range.
   - Within the standard range: the CR Timing Belt tension check is complete.

- Out of the standard range: replace the unit with a new/refurbished one.

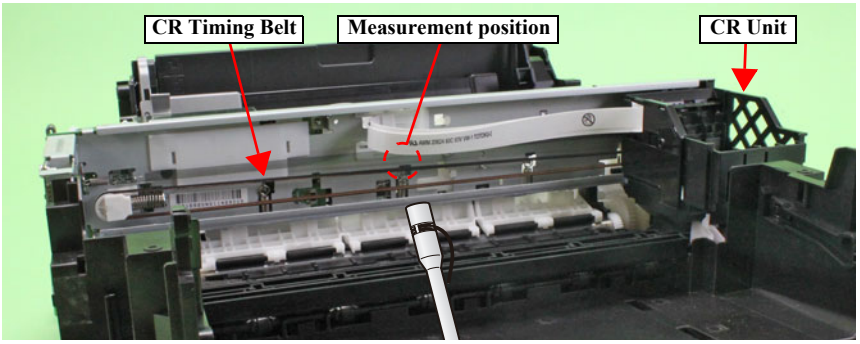

Figure 3-3. Checking the CR Timing Belt Tension

Checking the PF Timing Belt Tension

Perform the PF Belt tension check before installing the PF Scale and the PF Encoder Sensor.

1. Set the following parameters to the sonic tension meter:

☐ Separated Scanner and Panel type
- Weight: 0.011 kg/m
- Width: 3.2 mm
- Span: 29 mm

☐ Integrated Scanner and Panel type
- Weight: 0.011 kg/m
- Width: 2.5 mm or more
- Span: 29 mm

2. Bring the microphone of the sonic tension meter close to the position shown in Figure 3-4.
3. Press the “MEASURE” button of the sonic tension meter and flip the lower of the PF Timing Belt with plastic tweezers and measure the tension of the belt three times.
4. Check the average of the measured values falls within the standard range.
   - Within the standard range: the PF Timing Belt tension check is complete.

- Out of the standard range: reinstall the " PF Driven Pulley Assy / PF Timing Belt (p46)", and then perform the PF Timing Belt Tension Check again.

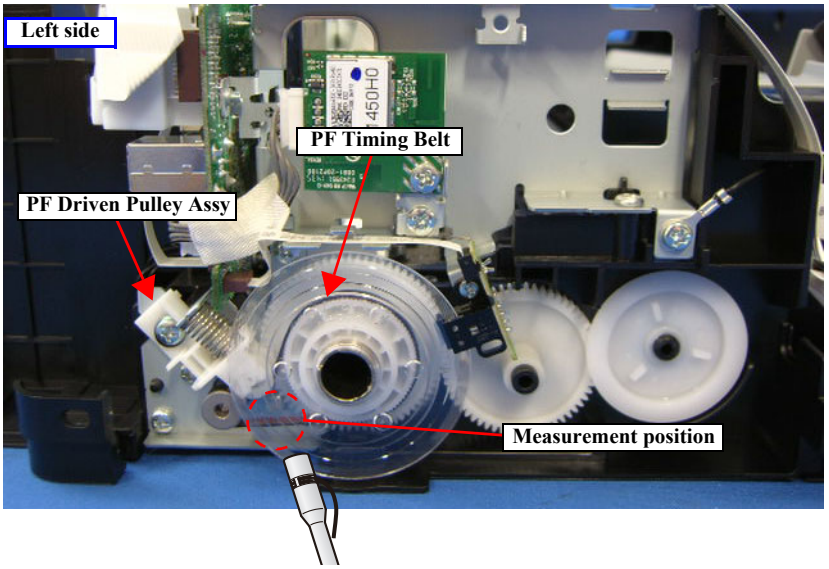

Figure 3-4. Checking the PF Timing Belt Tension

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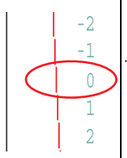
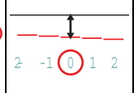
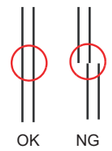
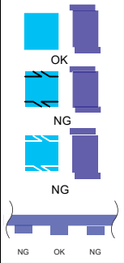
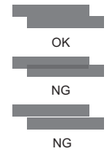
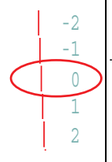
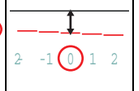
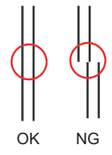
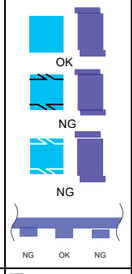
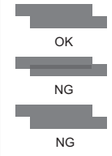
Table 3-1. Required Adjustment List

Adjustment Type			Mechanism adjustment		Adjustment using the Adjustment Program														
Priority			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Adjustment Item			Checking the Platen Gap	CR/PF Belt tension check	EEPROM data copy	Initialize Setting	Head ID input	Ink charge	Maintenance counter	First dot position adjustment	TOP margin adjustment	Head angular adjustment	Bi-D adjustment	PF adjustment	PF band adjustment	PF deterioration offset	CR motor heat protection control	PF motor heat protection control	Scanner motor heat protection control	PIS Board Check
Purpose			Check if the PG is within the standard.	Check the tension of the CR Timing Belt and PF Timing Belt.	To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To write sale-destination-specific settings and the serial number into the Main Board after replacing it. And also to set the MAC address as necessary.	To correct characteristic variation of the replaced Printhead by entering its Printhead ID (Head ID).	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	To reset the waste ink counter after replacing the Waste Ink Pad Assy.	To correct the print start position in the CR Unit moving direction through software control.	This corrects top margin of printout.	To correct tilt of the Printhead caused at the installation through software control.	To correct print start timing in bidirectional printing through software control.	To correct variations in paper feed accuracy to achieve higher print quality.	To correct variations in paper feed accuracy to achieve higher print quality in band printing.	To reset the counter or set it to its maximum according to the replaced parts.	To measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor.	Photo Ink Sensor degradation and failure check.
Part Name	Tray Front Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---
	Star Wheel Holder Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	O	O	---	---	---	---	---
	Paper Guide Front Unit	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	O	---	---	---	---	---	---	---	---	---	O	O	O	---	---	---	---	---
	Paper Guide Lower Porous Pad	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---
	Printhead	Remove	---*1	---	---	---	---	---	---	---	---	O	O	---	---	---	---	---	---	---
		Replace	O	---	---	---	O	O	---	O	O	O	O	---	O	---	---	---	---	O
	Waste Ink Pad Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---
	Retard Roller Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---
Printout pattern			---	---	---	---	---	---	---							---	---	---	---	---
How to judge			See " 3.3.1 Checking the Platen Gap (p63)" for the details.	See " 3.3.2 CR/PF Belt Tension Check (p66)" for the details.	---	---	---	---	---	Examine the misaligned lines printed on the left side of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Examine the misaligned lines printed on top of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Enter the values of the most straight lines.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	■ **Normal area pattern** Examine the printout patterns and enter the value for the pattern with fewest lines. ■ **Bottom area pattern** Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	---	See " 3.2.2.1 CR Motor Heat Protection Control / PF Motor Heat Protection Control (p58)" for the details.	See " 3.2.2.1 CR Motor Heat Protection Control / PF Motor Heat Protection Control (p58)" for the details.	See " 3.2.2.2 Scanner Motor Heat Protection Control (p59)" for the details.	See" 3.2.2.3 PIS Board Check (p60)"for the details.
Adjustment program			---	---	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Tool			See p63	See p66	---	---	---	---	---	Ruler	Ruler	---	---	---	---	---	---	---	---	---

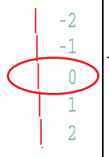
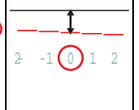
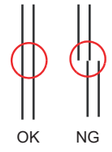
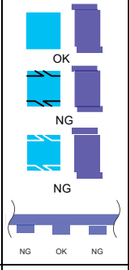
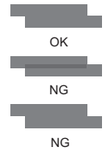
Note "*1": Necessary when the part is replaced at a point in the disassembly procedures other than specified in this manual.
"*2": Replacement of the Paper Guide Lower Porous Pad and Waste Ink Pad Assy is necessary.
"*3": Perform PF Belt tension check only.
"*4": Perform CR Belt tension check only.

Table 3-1. Required Adjustment List

Adjustment Type			Mechanism adjustment		Adjustment using the Adjustment Program															
Priority			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Adjustment Item			Checking the Platen Gap	CR/PF Belt tension check	EEPROM data copy	Initialize Setting	Head ID input	Ink charge	Maintenance counter	First dot position adjustment	TOP margin adjustment	Head angular adjustment	Bi-D adjustment	PF adjustment	PF band adjustment	PF deterioration offset	CR motor heat protection control	PF motor heat protection control	Scanner motor heat protection control	PIS Board Check
Purpose			Check if the PG is within the standard.	Check the tension of the CR Timing Belt and PF Timing Belt.	To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To write sale-destination-specific settings and the serial number into the Main Board after replacing it. And also to set the MAC address as necessary.	To correct characteristic variation of the replaced Printhead by entering its Printhead ID (Head ID).	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	To reset the waste ink counter after replacing the Waste Ink Pad Assy.	To correct the print start position in the CR Unit moving direction through software control.	This corrects top margin of printout.	To correct tilt of the Printhead caused at the installation through software control.	To correct print start timing in bidirectional printing through software control.	To correct variations in paper feed accuracy to achieve higher print quality.	To correct variations in paper feed accuracy to achieve higher print quality in band printing.	To reset the counter or set it to its maximum according to the replaced parts.	To measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor.	Photo Ink Sensor degradation and failure check.
Part Name	Scanner Unit	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	---
	Scanner Motor	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	---
	PS Unit	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	O	---	---
	PF Driven Pulley Assy	Remove	---	O*3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	O*3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	PF Timing Belt	Remove	---	O*3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	O*3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	EJ Roller	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	O	O	---	---	---	---	---
	Hopper	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	O	O	---	O	---	---	---	---	---	---	---
Printout pattern			---	---	---	---	---	---	---							---	---	---	---	---
How to judge			See " 3.3.1 Checking the Platen Gap (p63)" for the details.	See " 3.3.2 CR/ PF Belt Tension Check (p66)" for the details.	---	---	---	---	---	Examine the misaligned lines printed on the left side of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Examine the misaligned lines printed on top of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Enter the values of the most straight lines.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	■ **Normal area pattern** Examine the printout patterns and enter the value for the pattern with fewest lines. ■ **Bottom area pattern** Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	---	See " 3.2.2.1 CR Motor Heat Protection Control / PF Motor Heat Protection Control (p58)" for the details.	See " 3.2.2.1 CR Motor Heat Protection Control / PF Motor Heat Protection Control (p58)" for the details.	See " 3.2.2.2 Scanner Motor Heat Protection Control (p59)" for the details.	See" 3.2.2.3 PIS Board Check (p60)"for the details.
Adjustment program			---	---	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Tool			See p63	See p66	---	---	---	---	---	Ruler	Ruler	---	---	---	---	---	---	---	---	---

Note "*1": Necessary when the part is replaced at a point in the disassembly procedures other than specified in this manual.
"*2": Replacement of the Paper Guide Lower Porous Pad and Waste Ink Pad Assy is necessary.
"*3": Perform PF Belt tension check only.
"*4": Perform CR Belt tension check only.

Table 3-1. Required Adjustment List

Adjustment Type			Mechanism adjustment		Adjustment using the Adjustment Program															
Priority			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Adjustment Item			Checking the Platen Gap	CR/PF Belt tension check	EEPROM data copy	Initialize Setting	Head ID input	Ink charge	Maintenance counter	First dot position adjustment	TOP margin adjustment	Head angular adjustment	Bi-D adjustment	PF adjustment	PF band adjustment	PF deterioration offset	CR motor heat protection control	PF motor heat protection control	Scanner motor heat protection control	PIS Board Check
Purpose			Check if the PG is within the standard.	Check the tension of the CR Timing Belt and PF Timing Belt.	To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To write sale-destination-specific settings and the serial number into the Main Board after replacing it. And also to set the MAC address as necessary.	To correct characteristic variation of the replaced Printhead by entering its Printhead ID (Head ID).	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	To reset the waste ink counter after replacing the Waste Ink Pad Assy.	To correct the print start position in the CR Unit moving direction through software control.	This corrects top margin of printout.	To correct tilt of the Printhead caused at the installation through software control.	To correct print start timing in bidirectional printing through software control.	To correct variations in paper feed accuracy to achieve higher print quality.	To correct variations in paper feed accuracy to achieve higher print quality in band printing.	To reset the counter or set it to its maximum according to the replaced parts.	To measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor.	Photo Ink Sensor degradation and failure check.
Part Name	LD Roller Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---
	CR Motor	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	---	---	---
	PE Sensor Lever	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---
	Main Board	Remove	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---
		Replace (Read OK)	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace (Read NG)	---	---	---	O	O	---	O*2	O	O	O	O	O	O	O	O	O	O	O
	CR Driven Pulley	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	O*4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Main Frame Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	O	O*4	---	---	---	---	---	O	---	O	O	O	O	---	---	---	---	---
Printout pattern			---	---	---	---	---	---	---							---	---	---	---	---
How to judge			See " 3.3.1 Checking the Platen Gap (p63)" for the details.	See " 3.3.2 CR/ PF Belt Tension Check (p66)" for the details.	---	---	---	---	---	Examine the misaligned lines printed on the left side of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Examine the misaligned lines printed on top of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Enter the values of the most straight lines.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	■**Normal area pattern** Examine the printout patterns and enter the value for the pattern with fewest lines. ■**Bottom area pattern** Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	---	See " 3.2.2.1 CR Motor Heat Protection Control / PF Motor Heat Protection Control (p58)" for the details.	See " 3.2.2.1 CR Motor Heat Protection Control / PF Motor Heat Protection Control (p58)" for the details.	See " 3.2.2.2 Scanner Motor Heat Protection Control (p59)" for the details.	See" 3.2.2.3 PIS Board Check (p60)"for the details.
Adjustment program			---	---	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Tool			See p63	See p66	---	---	---	---	---	Ruler	Ruler	---	---	---	---	---	---	---	---	---

Note "*1": Necessary when the part is replaced at a point in the disassembly procedures other than specified in this manual.
"*2": Replacement of the Paper Guide Lower Porous Pad and Waste Ink Pad Assy is necessary.
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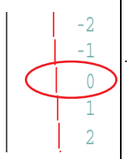
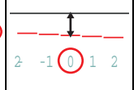
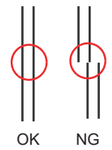
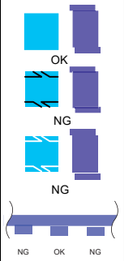
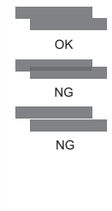
Adjustment Item			Checking the Platen Gap	CR/PF Belt tension check	EEPROM data copy	Initialize Setting	Head ID input	Ink charge	Maintenance counter	First dot position adjustment	TOP margin adjustment	Head angular adjustment	Bi-D adjustment	PF adjustment	PF band adjustment	PF deterioration offset	CR motor heat protection control	PF motor heat protection control	Scanner motor heat protection control	PIS Board Check
Purpose			Check if the PG is within the standard.	Check the tension of the CR Timing Belt and PF Timing Belt.	To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To write sale-destination-specific settings and the serial number into the Main Board after replacing it. And also to set the MAC address as necessary.	To correct characteristic variation of the replaced Printhead by entering its Printhead ID (Head ID).	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	To reset the waste ink counter after replacing the Waste Ink Pad Assy.	To correct the print start position in the CR Unit moving direction through software control.	This corrects top margin of printout.	To correct tilt of the Printhead caused at the installation through software control.	To correct print start timing in bidirectional printing through software control.	To correct variations in paper feed accuracy to achieve higher print quality.	To correct variations in paper feed accuracy to achieve higher print quality in band printing.	To reset the counter or set it to its maximum according to the replaced parts.	To measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor.	Photo Ink Sensor degradation and failure check.
Part Name	Paper Guide Upper Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	O	---	O	O	O	---	---	---	---	---
	CR Unit	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	O	---	---	---	---	---	---	O	O	O	O	---	O	---	---	---	---	---
	CR Timing Belt	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	O*4	---	---	---	------	---	---	---	---	---	---	---	---	---	---	---	---
	Frame Base Assy	Replace	---	O*3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	PF Roller Unit	Remove	---	O*3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	O*3	---	---	---	---	---	---	O	---	---	O	O	O	---	---	---	---
	PF Motor Assy	Remove	---	O*3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	O*3	---	---	---	---	---	---	---	---	---	---	---	---	---	O	---	---
	Frame Base	Replace	---	O*3	---	---	---	---	---	O	O	---	O	---	---	---	---	---	---	---
	PIS Board	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O
Printout pattern			---	---	---	---	---	---	---							---	---	---	---	---
How to judge			See " 3.3.1 Checking the Platen Gap (p63)" for the details.	See " 3.3.2 CR/ PF Belt Tension Check (p66)" for the details.	---	---	---	---	---	Examine the misaligned lines printed on the left side of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Examine the misaligned lines printed on top of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Enter the values of the most straight lines.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	■**Normal area pattern** Examine the printout patterns and enter the value for the pattern with fewest lines. ■**Bottom area pattern** Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	---	See " 3.2.2.1 CR Motor Heat Protection Control / PF Motor Heat Protection Control (p58)" for the details.	See " 3.2.2.1 CR Motor Heat Protection Control / PF Motor Heat Protection Control (p58)" for the details.	See " 3.2.2.2 Scanner Motor Heat Protection Control (p59)" for the details.	See" 3.2.2.3 PIS Board Check (p60)"for the details.
Adjustment program			---	---	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Tool			See p63	See p66	---	---	---	---	---	Ruler	Ruler	---	---	---	---	---	---	---	---	---

Note "*1": Necessary when the part is replaced at a point in the disassembly procedures other than specified in this manual.
"*2": Replacement of the Paper Guide Lower Porous Pad and Waste Ink Pad Assy is necessary.
"*3": Perform PF Belt tension check only.
"*4": Perform CR Belt tension check only.

CHAPTER **4**

MAINTENANCE

4.1 Overview

This section provides information to maintain the printer in its optimum condition.

4.1.1 Cleaning

Except for the Printhead, there are no other mechanical parts or units that require periodic cleaning. However, if need arises, clean the component observing the following instructions.

☐ Instructions for cleaning

- Exterior parts such as housing
  Wipe dirt off with a soft clean cloth moistened with water. For glossy or transparent parts, use of unwoven cloth is recommended to avoid scratching those parts.
- Inside of the printer
  Remove paper dust with a vacuum cleaner.
- Rubber or plastic rollers such as an LD roller used to feed paper
  If paper dust adhered to the rollers decreases the frictional force of the rollers and the rollers cannot properly feed paper, wipe off the paper dust with a soft cloth moistened with diluted alcohol.

☐ Instructions for cleaning ink stains

Wipe the stains off with a cloth wrung out of diluted alcohol.

- **Do not use alcohol for cleaning the transparent parts. Doing so may cause them to get cloudy.**
- **When wiping paper dust off the LD Roller, be careful not to rub against the surface asperity.**
- **To minimize the effect on the parts, use diluted alcohol such as 70% diluted ether.**
- **After using alcohol for cleaning, make sure to wipe the part off with a soft dry dust-free cloth to remove alcohol traces fully.**

4.1.2 Lubrication

The type and amount of the grease used to lubricate the printer parts are determined based on the results of the internal evaluations. Therefore, refer to "4.2 Lubrication Points and Instructions (p75)" for the repairing procedures below, and apply the specified type and amount of the grease to the specified part of the printer mechanism.

"4.2 Lubrication Points and Instructions (p75)" also provides information about whether or not the parts which require lubrication are supplied as ASP and the lubrication status when supplied as ASP. For the parts which are not supplied as ASP, if their movement is not smooth enough, check their lubrication status and lubricate them if necessary.

☐ Grease

Type	Name	EPSON Part Code	Supplier
Grease	G-45	1033657	EPSON
Grease	G-71	1304682	EPSON
Grease	G-96	1590700	EPSON

☐ Tools

Name	Availability	EPSON Part Code
Injector	O *	---
Brush	O *	---
Flux dispenser	O *	1049533

Note *: Use tools whose specifications are specified in "4.2 Lubrication Points and Instructions (p75)".

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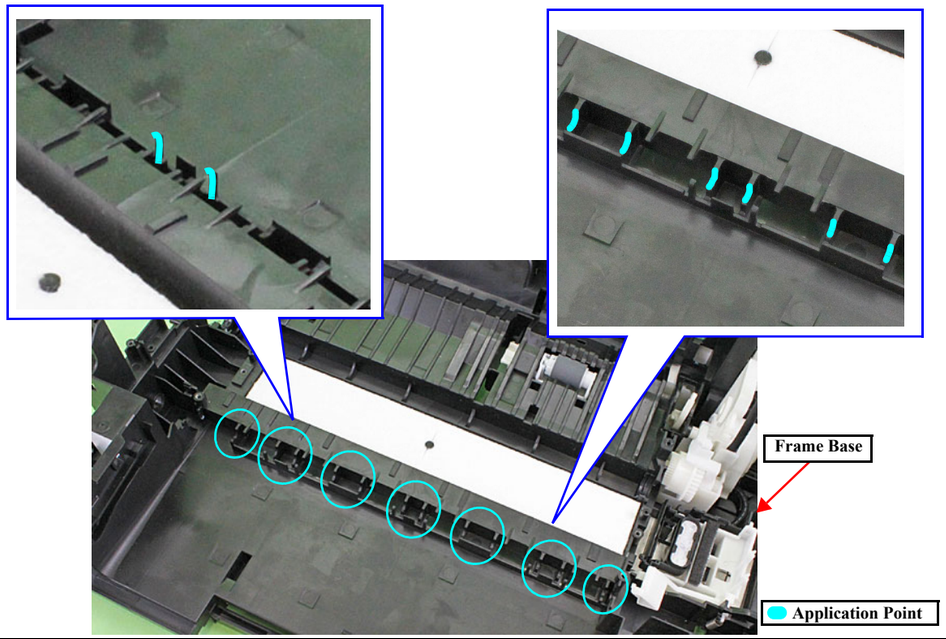
4.2 Lubrication Points and Instructions



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>

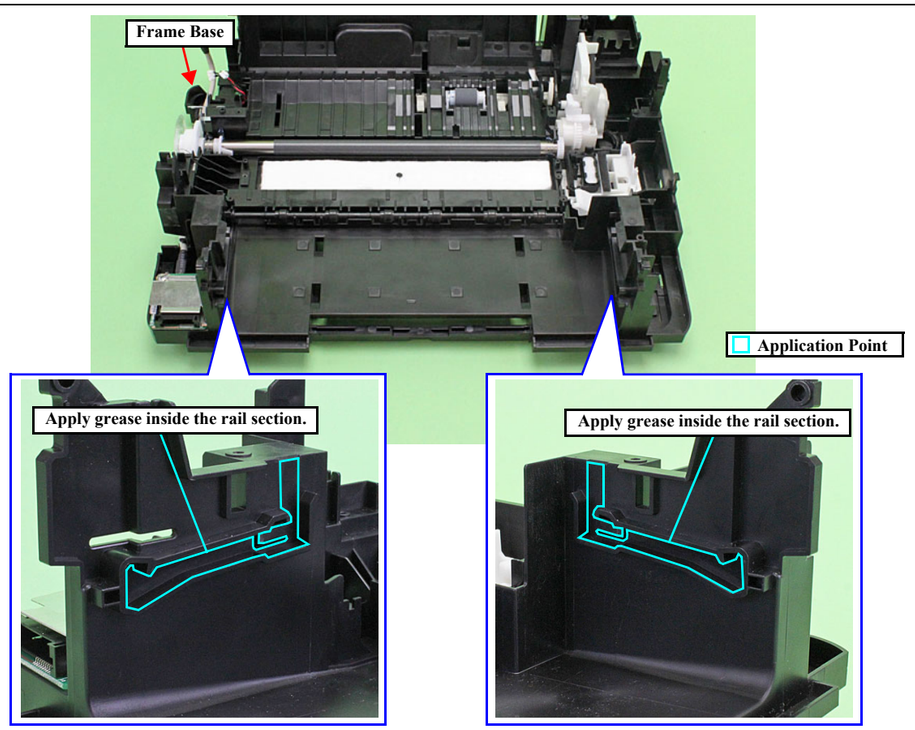
<Lubrication Point>
Ribs (x12) and hooks (x6) on the Frame Base (Contact points of the EJ Roller)

<Type>
G-96

<Application Amount>
Appropriate amount

<Remarks>
☐ Apply with flux dispenser.
☐ Stir G-96 before use.

Figure 4-1. Lubrication of the Frame Base (1)



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>

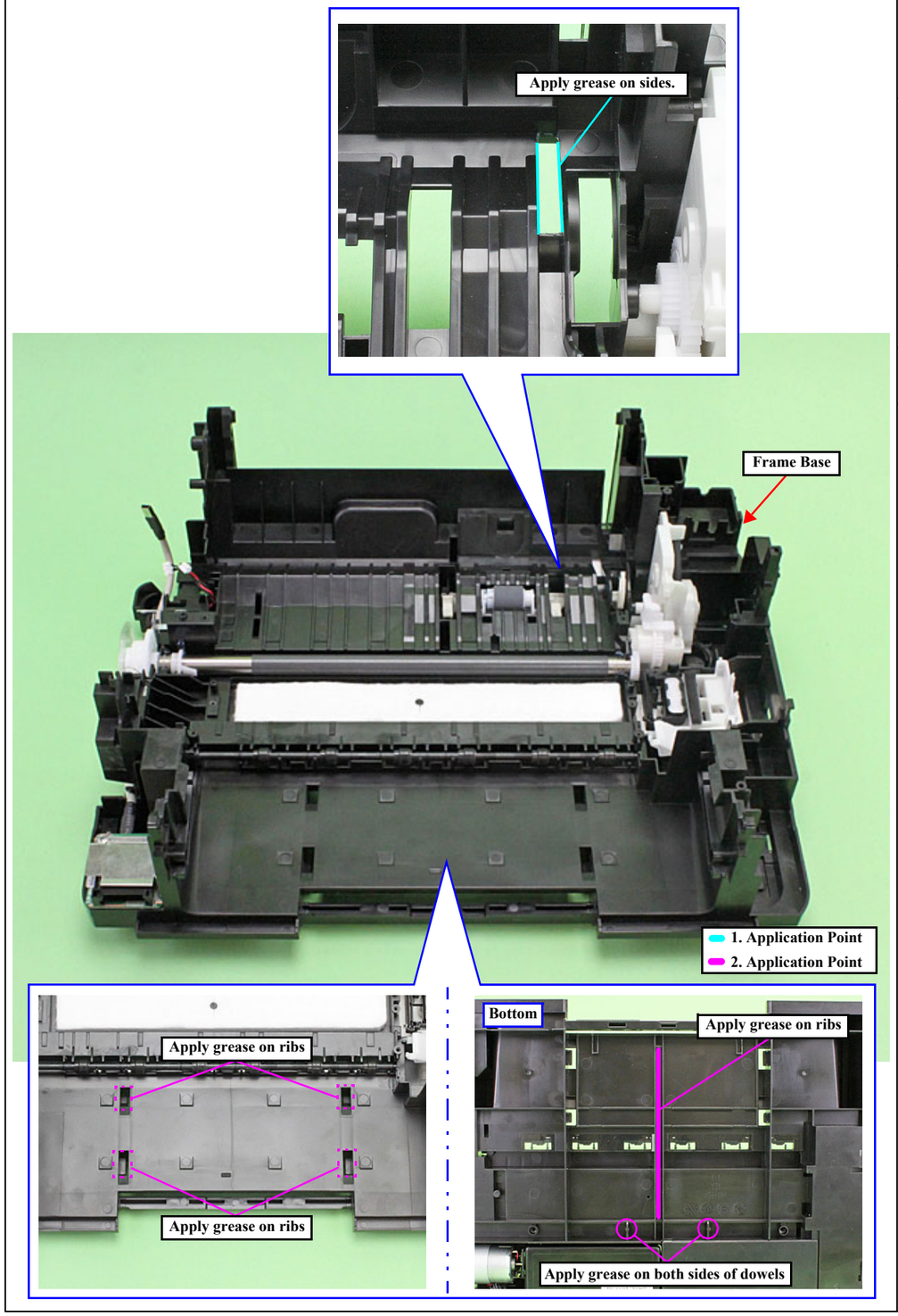
<Lubrication Point>
Contact points (x2) on the Frame Base with the Panel Assy

<Type>
G-96

<Application Amount>
Appropriate amount

<Remarks>
☐ Apply with flux dispenser.
☐ Stir G-96 before use.

Figure 4-2. Lubrication of the Frame Base (2)



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>

<Lubrication Point>
1.Contact points (x2) on the Frame Base with the Hopper
2. Contact points (x7) on the Frame Base with the Stacker Assy

<Type>
1. G-71
2. G-96

<Application Amount>
Appropriate amount

<Remarks>
☐ Apply with flux dispenser.
☐ Stir G-96 before use.

Figure 4-3. Lubrication of the Frame Base (3)

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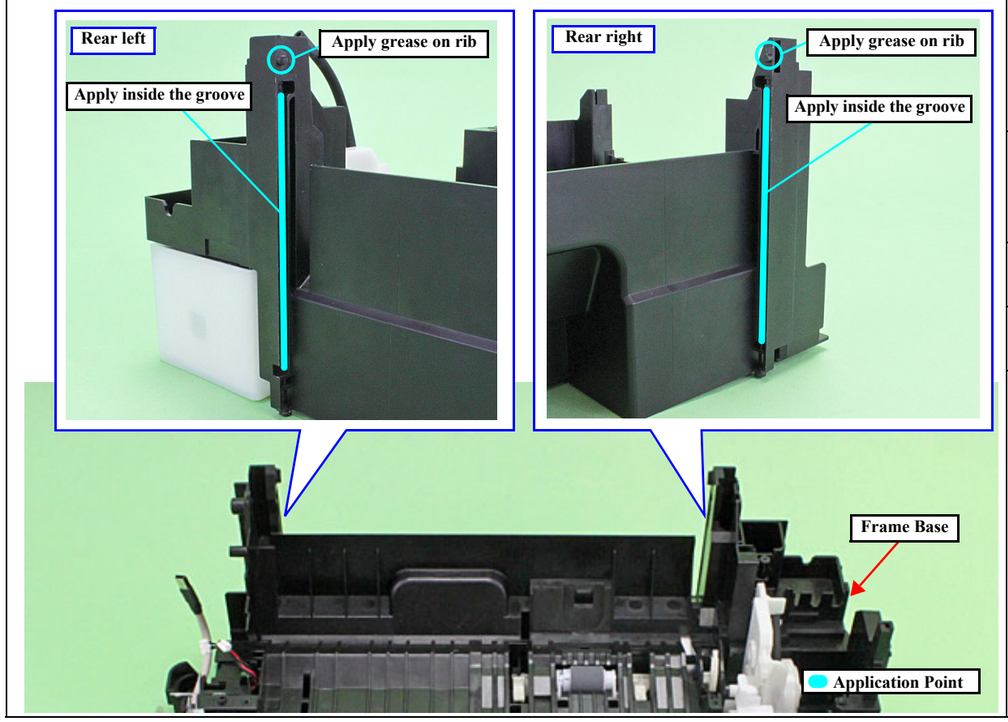


<Part supply as ASP>
None
<Lubrication status when supplied as ASP>

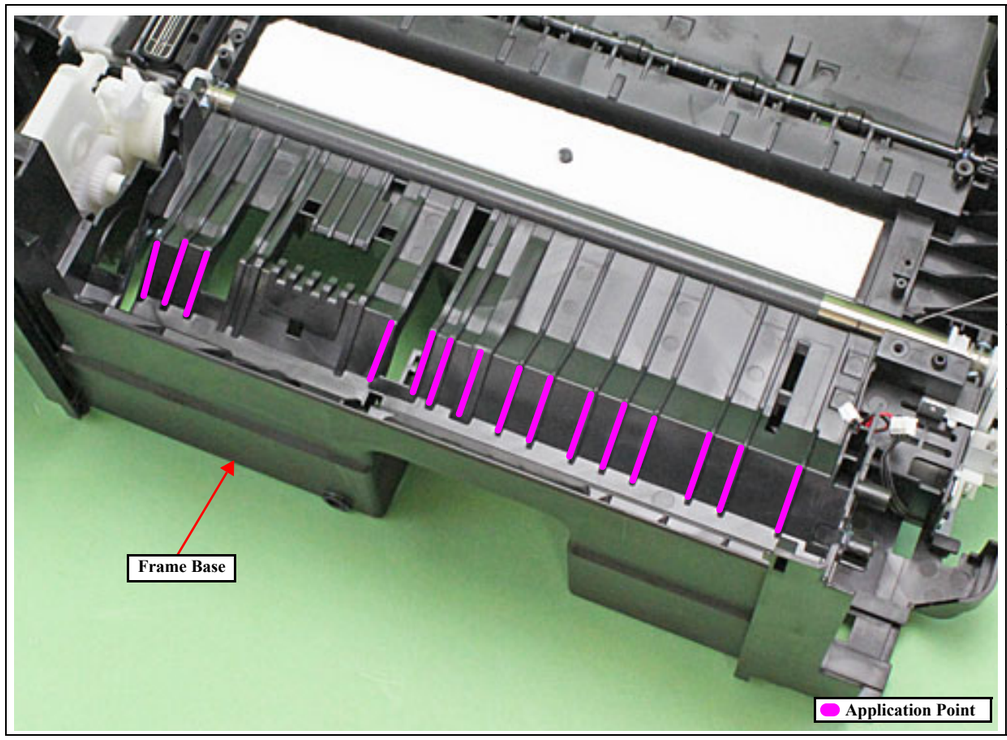
<Lubrication Point>
Contact points (x4) on the Frame Base with the Paper Support Assy

<Type>
G-96

<Application Amount>
Appropriate amount

<Remarks>
☐ Apply with flux dispenser.
☐ Stir G-96 before use.

Figure 4-4. Lubrication of the Frame Base (4)



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>

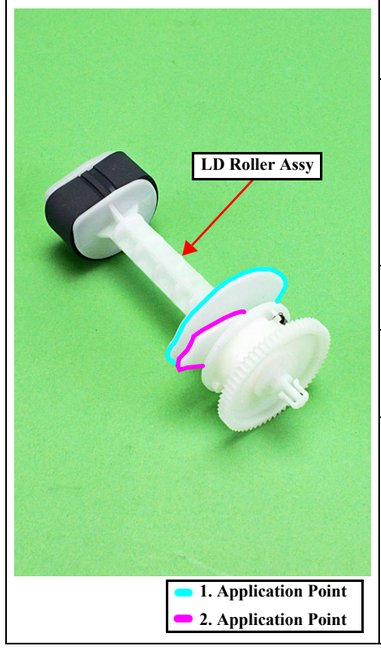
<Lubrication Point>
Contact points (x15 on the ribs) on the Frame Base with the Hopper

<Type>
G-96

<Application Amount>
Appropriate amount

<Remarks>
☐ Apply with flux dispenser.
☐ Stir G-96 before use.

Figure 4-5. Lubrication of the Frame Base (5)



<Part supply as ASP>
Yes
<Lubrication status when supplied as ASP>
Not lubricated

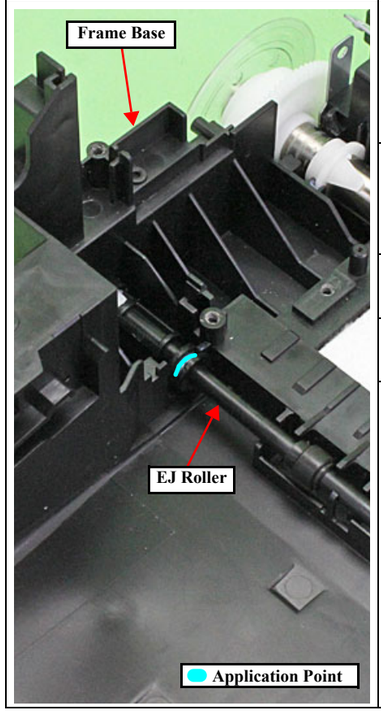
<Lubrication Point>
1. Cam of the LD Roller Assy (contact point with the Hopper)
2. Cam of the LD Roller Assy (contact point with the Paper Back Lever)

<Type>
G-71

<Application Amount>
Circumference of each cam (0.05 g each)

<Remarks>
☐ Apply with injector.
☐ Lubricate before attaching the part.

Figure 4-6. Lubrication of the LD Roller Assy



<Part supply as ASP>
Yes
<Lubrication status when supplied as ASP>
Not lubricated

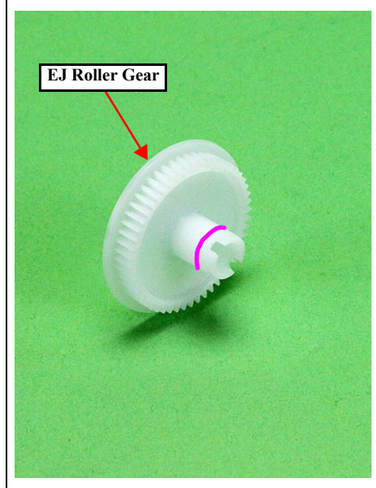
<Lubrication Point>
Contact point (x1 on the shaft) on the EJ Roller with the Frame Base

<Type>
G-71

<Application Amount>
0.06 g

<Remarks>
☐ Apply with injector.
☐ Lubricate before attaching the part.

Figure 4-7. Lubrication of the EJ Roller



<Part supply as ASP>
Yes
<Lubrication status when supplied as ASP>
Not lubricated

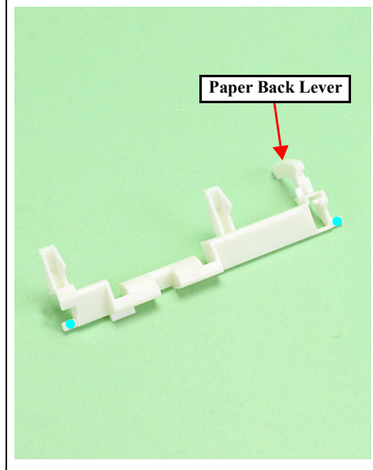
<Lubrication Point>
Shaft on the EJ Roller Gear

<Type>
G-71

<Application Amount>
ϕ 1 mm x 1 circle

<Remarks>
☐ Using injector, apply grease along the tier on the shaft.
☐ Lubricate before attaching the part.

Figure 4-8. Lubrication of the EJ Roller Gear



<Part supply as ASP>
Yes
<Lubrication status when supplied as ASP>
Not lubricated

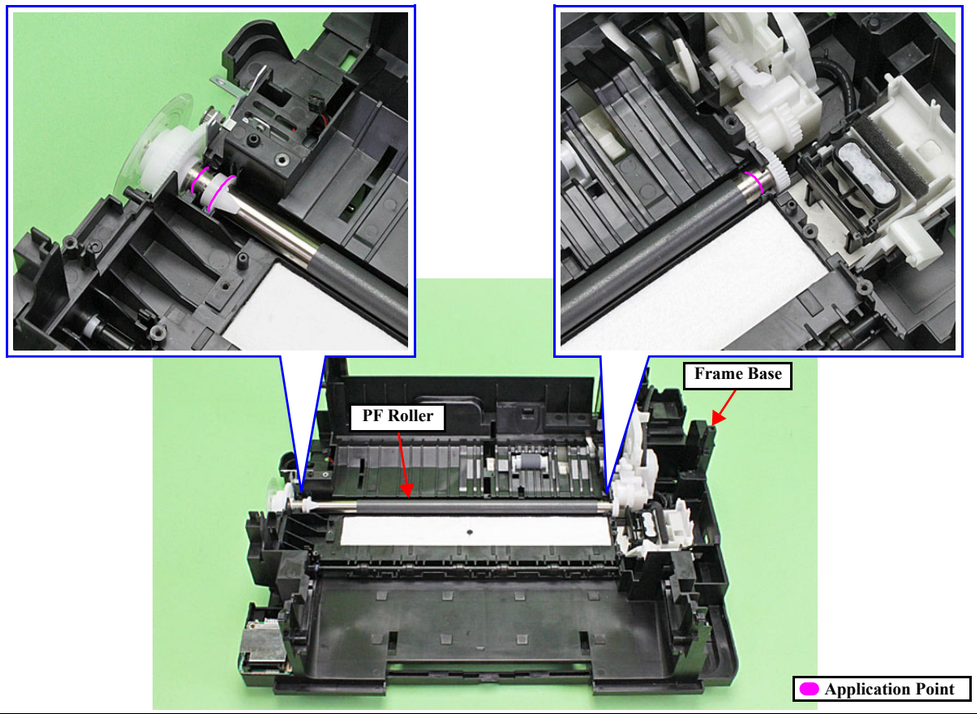
<Lubrication Point>
Contact points (x2) on the Paper Back Lever with the Frame Base

<Type>
G-71

<Application Amount>
0.06 g x 2 points

<Remarks>
☐ Apply with injector.
☐ Lubricate before attaching the part.

Figure 4-9. Lubrication of the Paper Back Lever



<Part supply as ASP>
Yes
<Lubrication status when supplied as ASP>
Not lubricated

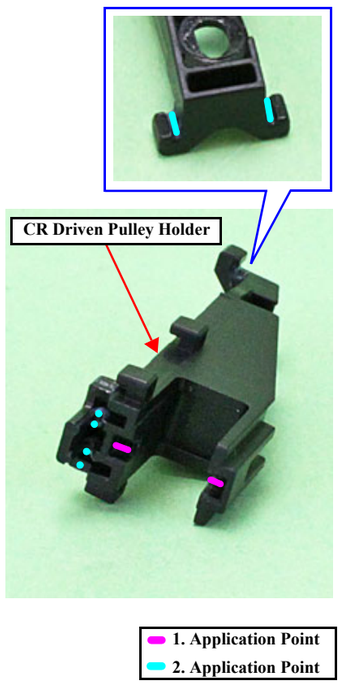
<Lubrication Point>
Contact points (x3 on the shaft) on the PF Roller with the Frame Base

<Type>
G-71

<Application Amount>
On each contact point around the shaft (appropriate amount)

<Remarks>
☐ Apply with injector.
☐ Lubricate before attaching the part.

Figure 4-10. Lubrication of the PF Roller



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>

<Lubrication Point>
1. On the bearings (x2) of the CR Driven Pulley on the CR Driven Pulley Holder
2. Contact points (x6) on the groove of the CR Driven Pulley Holder with the Main Frame

<Type>
G-71

<Application Amount>
Appropriate amount

<Remarks>
☐ Apply with injector.
☐ Check the lubrication condition and apply grease if necessary.

Figure 4-11. Lubrication of the CR Driven Pulley Assy

<Part supply as ASP>
None
<Lubrication status when supplied as ASP>

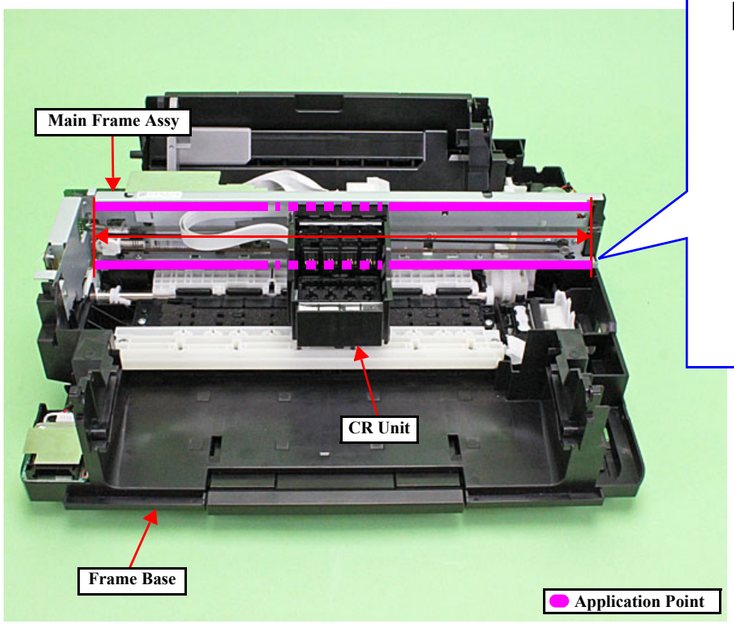
<Lubrication Point>
1. Shaft hole of the Driven Pulley.
2. CR Driven Pulley Shaft

<Type>
G-71

<Application Amount>
Appropriate amount

<Remarks>
Apply with injector.

Figure 4-12. Lubrication of the CR Driven Pulley/ CR Driven Pulley Shaft



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>

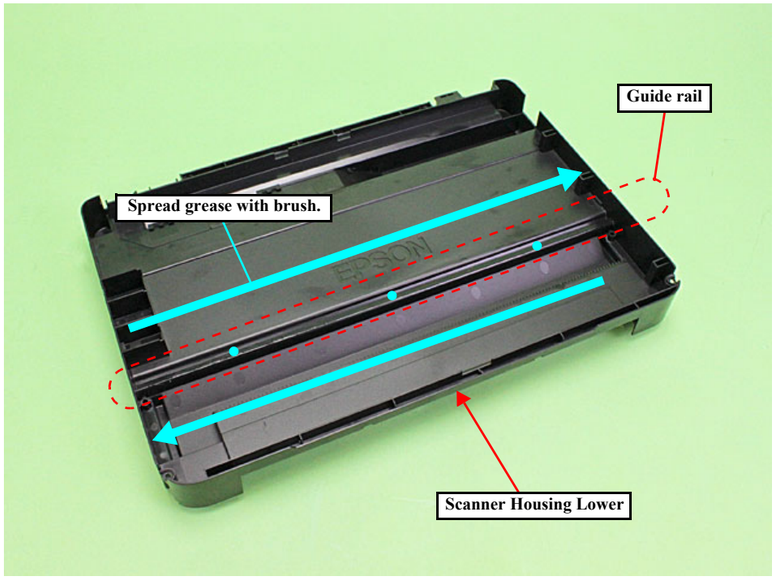
<Lubrication Point>
1. Contact point (x1) on the upper side of the Main Frame Assy with the CR Unit
2. Contact points (x4) on the lower side of the Main Frame Assy with the CR Unit

<Type>
G-71

<Application Amount>
Appropriate amount

<Remarks>
Apply with injector.

Figure 4-13. Lubrication of the Main Frame Assy



<Part supply as ASP>
Supplied as the Scanner Unit
<Lubrication status when supplied as ASP>
Lubricated

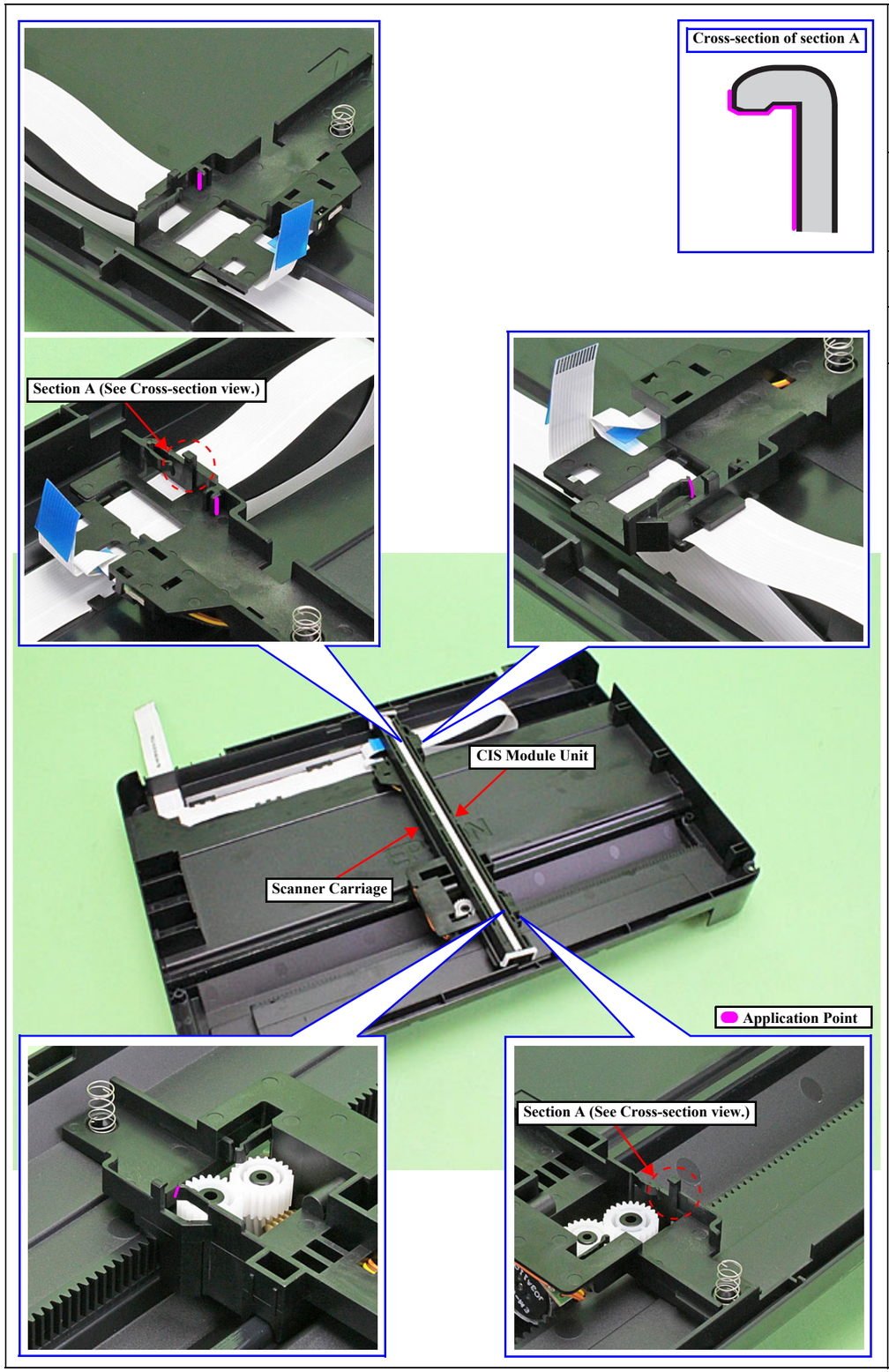
<Lubrication Point>
Guide rail of the Scanner Housing Lower

<Type>
G-45

<Application Amount>
0.03 g x 3 points

<Remarks>
After applying with injector, spread it with brush in the direction of the arrow.

Figure 4-14. Lubrication of the Scanner Housing Lower



<Part supply as ASP>
Supplied as the Scanner Unit
<Lubrication status when supplied as ASP>
Lubricated

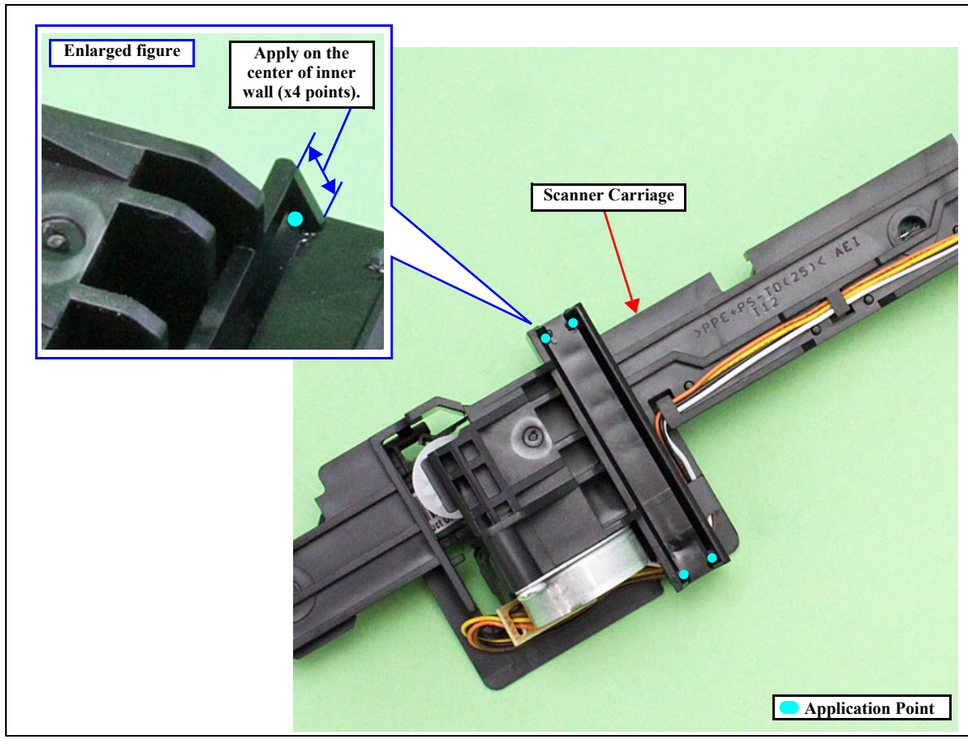
<Lubrication Point>
Contact points (x6) on the Scanner Carriage with the CIS Module Unit

<Type>
G-96

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Apply with flux dispenser.
- ☐ Stir G-96 before use.
- ☐ For section A, apply grease over the area shown in the Cross-section view.

Figure 4-15. Lubrication of the Scanner Carriage (1)



<Part supply as ASP>
Supplied as the Scanner Unit
<Lubrication status when supplied as ASP>
Lubricated

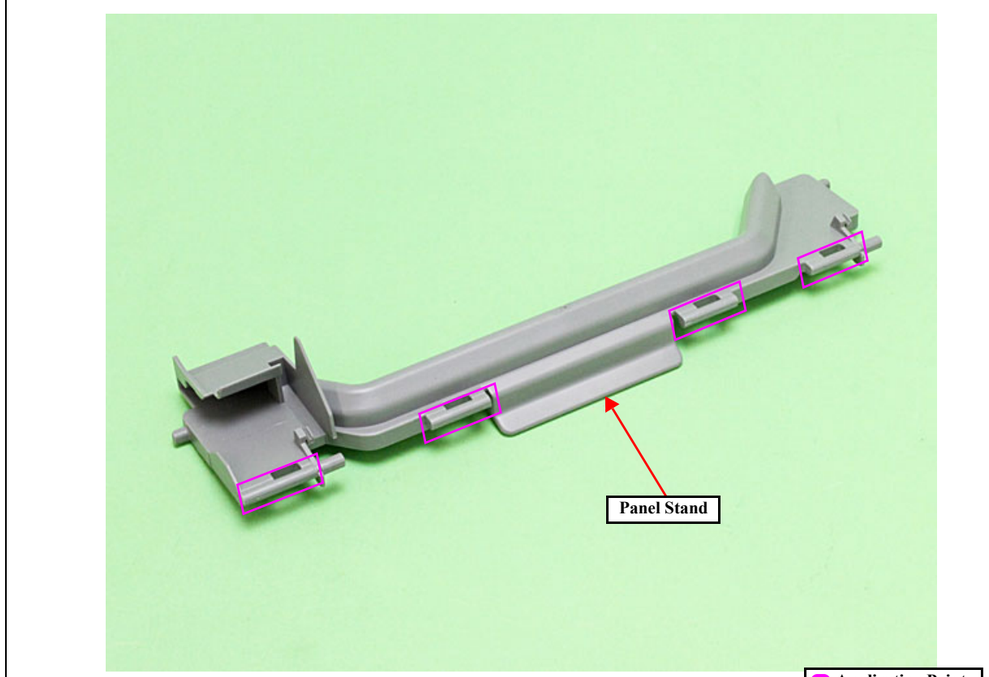
<Lubrication Point>
On inner wall surfaces (x4) on the groove of the Scanner Carriage

<Type>
G-45

<Application Amount>
0.01 g x 4 points

<Remarks>
- ☐ Using injector, apply grease on inner wall surfaces (x4) on the groove shown in the enlarged figure.
- ☐ Be careful not to let grease flow over.

Figure 4-16. Lubrication of the Scanner Carriage (2)



<Part supply as ASP>
Supplied as the Panel Unit
<Lubrication status when supplied as ASP>
Lubricated

<Lubrication Point>
Shafts (x4) of the Panel Stand

<Type>
G-96

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Using flux dispenser, apply all over the shafts shown in the figure.
- ☐ Stir G-96 before use.

Figure 4-17. Lubrication of the Panel Stand

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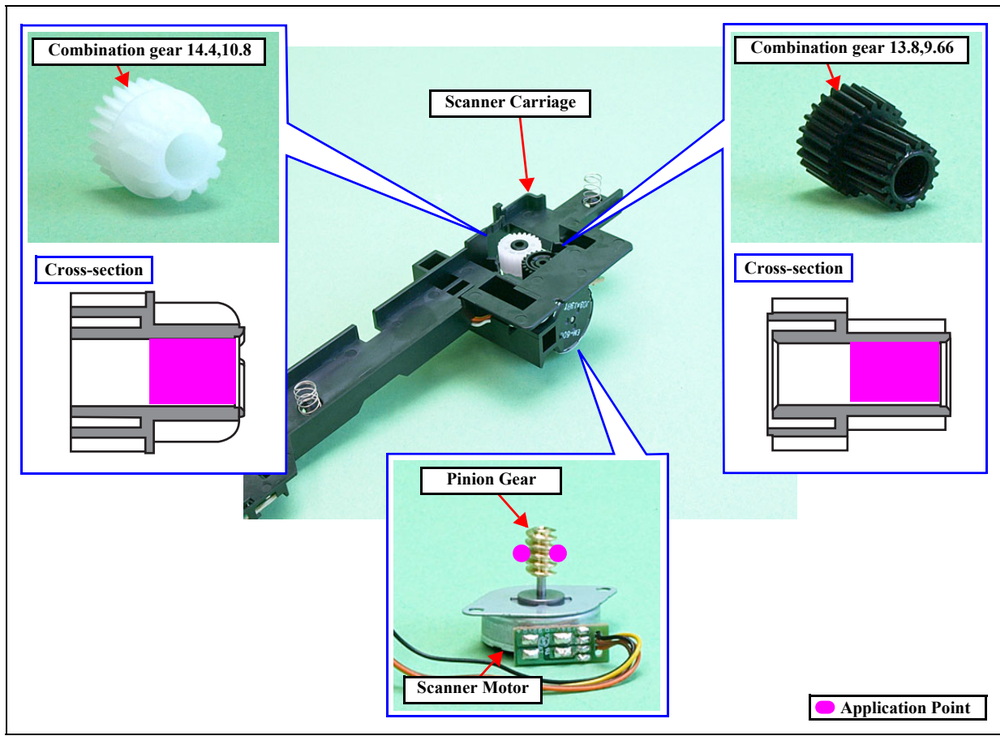

<Part supply as ASP>
Supplied as the Scanner Unit
<Lubrication status when supplied as ASP>
Lubricated

<Lubrication Point>
1. Gear sections (x2) on the Pinion Gear of the Scanner Motor
2. Shaft hole of the Combination Gear 14.4.10.8
3. Shaft hole of the Combination Gear 13.8.9.66

<Type>
G-45

<Application Amount>
1. 0.01 g x 2 points
2.3. 0.01 g

<Remarks>
1. Apply with injector.
2.3. After applying with injector, spread it over the entire inner surface the shaft hole shown in the figure.
☐ Be careful not to let grease flow over.

Figure 4-18. Lubrication of Scanner Motor, Combination Gear 14.4,10.8 and Combination Gear 13.8,9.66

CHAPTER **5**

REFURBISHMENT

5.1 Overview

This chapter provides the refurbishing work of the printer and its purpose.

5.1.1 Ink Discharge

☐ Purpose

To clean the ink path inside the Printhead to restore its condition identical to the factory default.

☐ Jigs

Required jigs and cleaning liquid for cleaning the ink path is as follows.

Name	Category	EPSON Part Code
Ink Supply Jig	Jig	20MJ11206
CSIC Chip (Bk)	Jig	2011900JP1
CSIC Chip (C)	Jig	2011900JP2
CSIC Chip (M)	Jig	2011900JP3
CSIC Chip (Y)	Jig	2011900JP4
Shipping Liquid (CR06, 1kg)	Cleaning Liquid	6104713

☐ Jigs (XP-2100 series, XP-2200 series)

Required jigs and cleaning liquid for cleaning the ink path is as follows.

Name	Category	EPSON Part Code
Ink Supply Jig	Jig	20MJ11206
CSIC Chip (Bk)	Jig	XP-2100 series:Use the ink cartridge's CSIC XP-2200 series: Does not require a CSIC chip.
CSIC Chip (C)	Jig	
CSIC Chip (M)	Jig	
CSIC Chip (Y)	Jig	
Shipping Liquid (CR06, 1kg)	Cleaning Liquid	6104713

☐ Operation of the Adjustment Program for refurbishment when performing the ink discharge

Ink discharge can be done by selecting and running "Ink Discharge" from the Adjustment Program for refurbishment with the jig set on the printer.

At this point, the factory default values except the adjustment-related setting values are written on the EEPROM on the Main Board of the printer. This is performed in order to erase the personal information including the network settings and the operating information of the printer before refurbishment, etc.

This default value restoration is automatically done when performing the ink discharge by the Adjustment Program for refurbishment automatically.

- **For the details of how to set the jigs for refurbishment and how to use the Adjustment Program (for refurbishment), see guide in the Adjustment Program (for refurbishment).**
- **Approximately four minutes are necessary for completing the Ink Discharge.**

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CHAPTER **6**

APPENDIX

6.1 Connector Diagram

In this chapter, the product names are called as follows:

- **XP-430 series: XP-430/XP-431/XP-434**
- **XP-231 series: XP-231**
- **XP-330 series: XP-330/XP-334**
- **XP-432 series: XP-432/XP-435**
- **XP-235 series: XP-235/XP-235A**
- **XP-332 series: XP-332/XP-332A/XP-335**
- **XP-440 series: XP-440/XP-441/XP-446**
- **XP-240 series: XP-240/XP-241**
- **XP-340 series: XP-340/XP-344**
- **XP-442 series: XP-442/XP-445**
- **XP-245 series: XP-243/XP-245/XP-247**
- **XP-342 series: XP-342/XP-343/XP-345**
- **XP-452 series: XP-452/XP-455**
- **XP-255 series: XP-255/XP-257**
- **XP-352 series: XP-352/XP-355**
- **XP-2100 series: XP-2100/XP-2101/XP-2105/XP-2106/XP-2150/XP-2155**
- **XP-2200 series: XP-2200/XP-2205**

Cable connections of this printer are shown below.

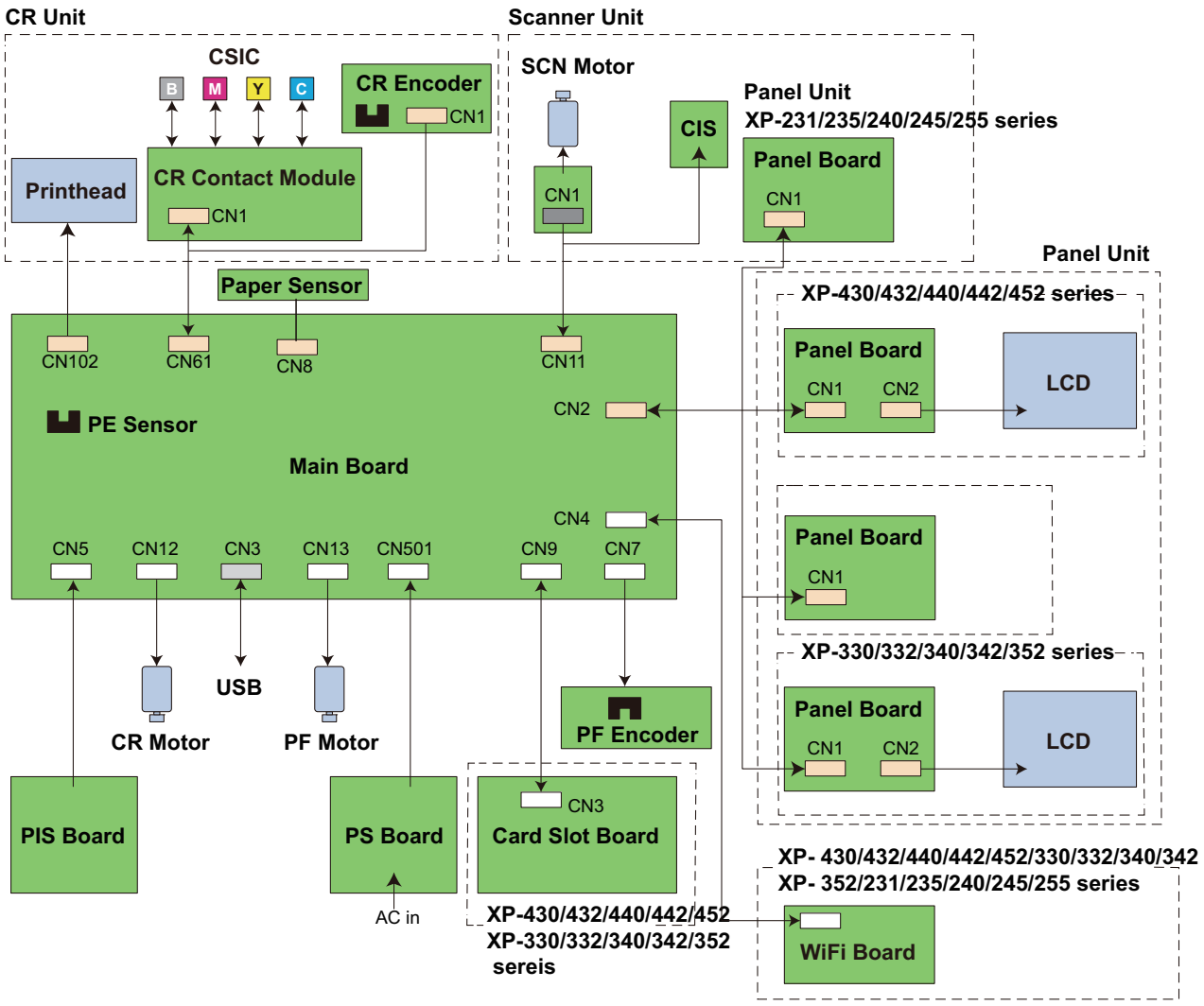


Figure 6-1. Connector Diagram

■ XP-2100_2200 series

Cable connections of this printer are shown below.

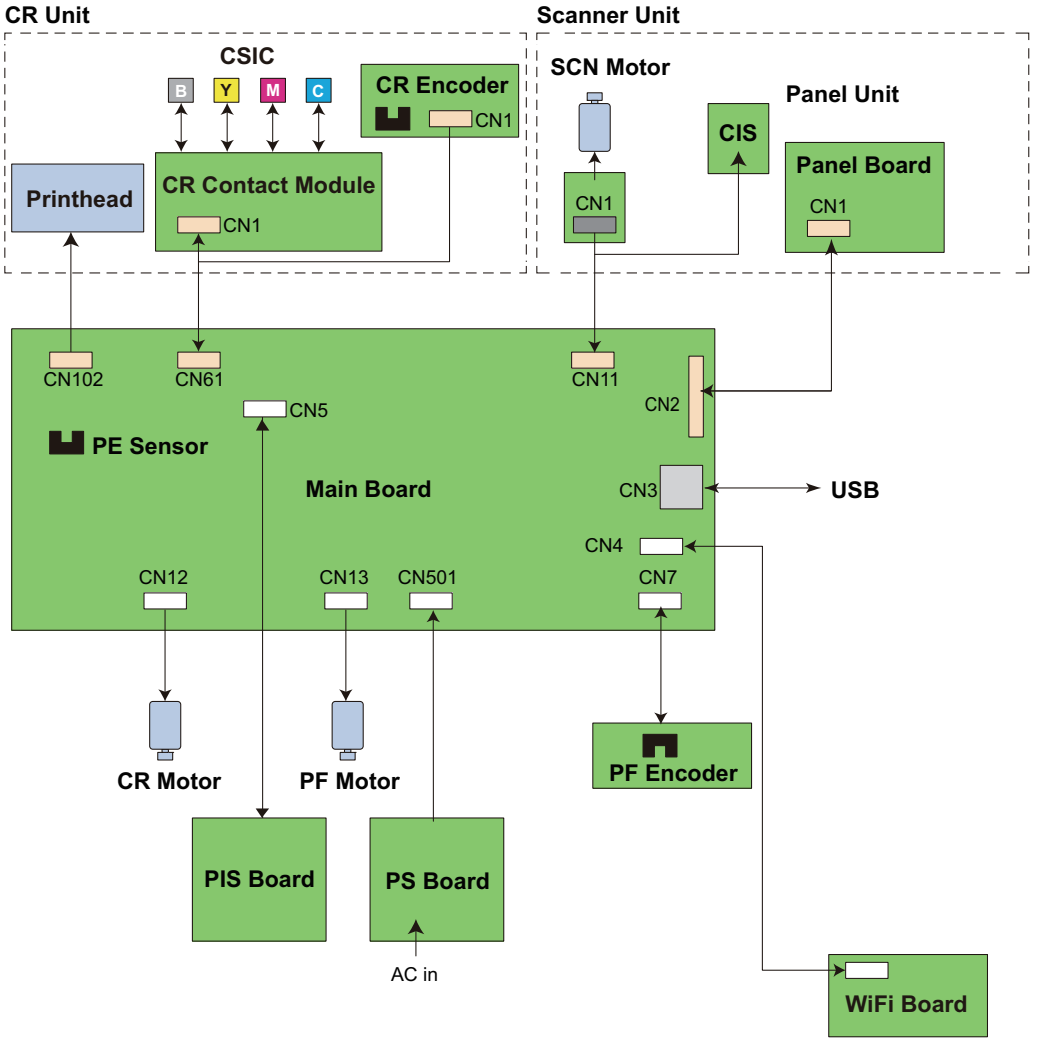


Figure 6-2. Connector Diagram

6.2 Protection for Transportation

This section describes the cautions for packing the printer before returning it to the user.

6.2.1 Securing the CR Unit

- ☐ Product name
  XP-430/XP-330/XP-432/XP-332 series
- ☐ Purpose
  To prevent damaging the Change Lever by shock during transportation.
- ☐ Risks if it is not performed
  Fatal error caused by the damage of the Change Lever.
- ☐ Preparation
  Prepare a piece of tessa tape (length: 160 mm, width: 22 mm, fold one end 5 mm).
- ☐ Method

1. Turn off the printer to set the CR Unit to its home position.
2. Pull the CR Timing Belt, and move the CR Unit to the 80-digit side slightly so that the CR Unit can touch the side of the tip on the Change Lever.
3. Attach the folded end of tessa tape on the Housing Right. The point of the tape 125 mm from the folded end should be aligned with the corner of the Housing Right, then.
4. Attach the unfolded end of tessa tape to the side of the CR Unit, and secure the CR Unit.

In order to prevent damaging the Change Lever, the CR Unit should be secured at the position indicated in Step 2. Therefore, when securing the CR Unit with tessa tape, hold the Timing Belt to keep the position of the CR Unit as is and avoid the CR Unit from moving to the 0-digit side.

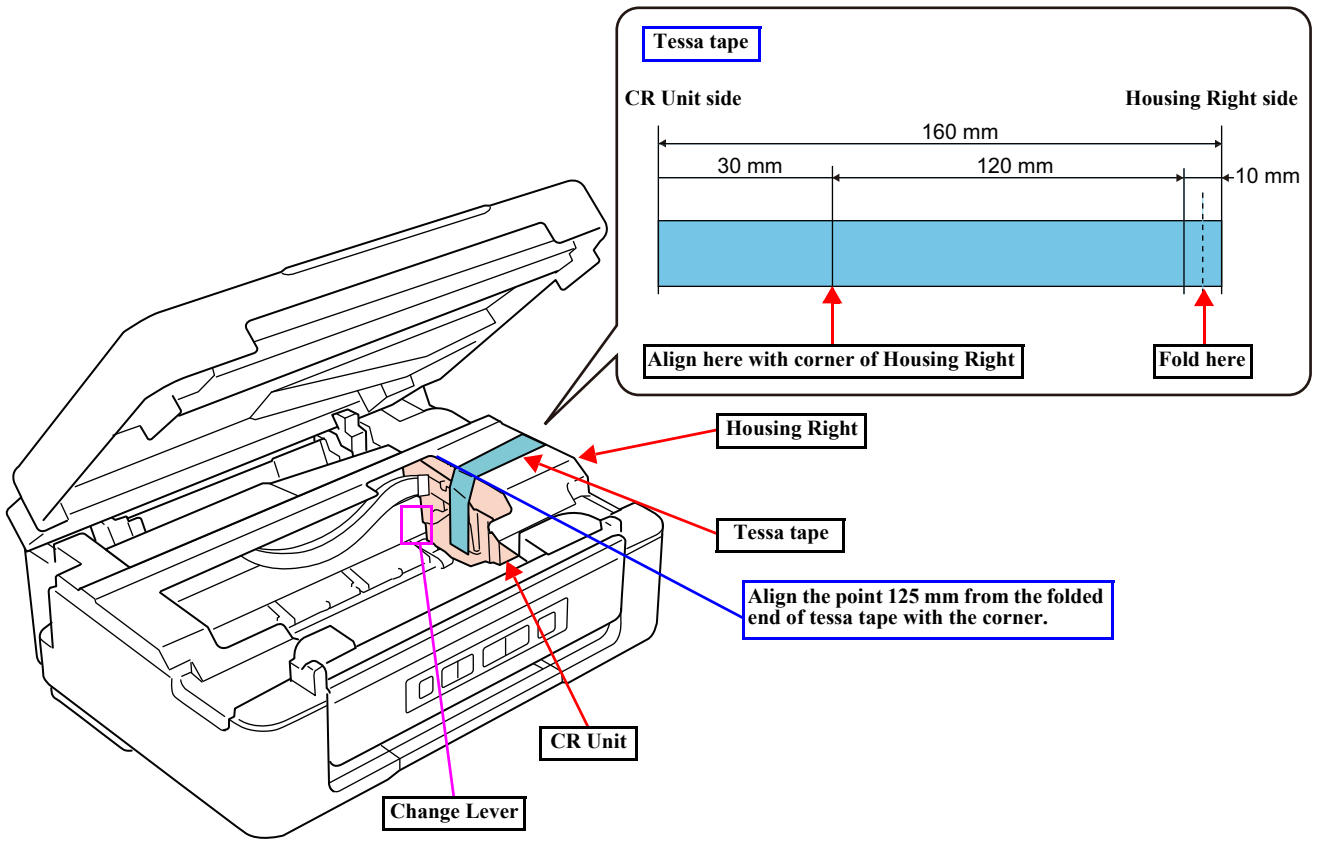


Figure 6-3. Securing the CR Unit

6.2.2 Securing the CR Unit

- ☐ Product name : XP-231/235/240/245/2100/2200 series.
- ☐ Purpose
  To prevent damaging the Change Lever by shock during transportation.
- ☐ Risks if it is not performed
  Fatal error caused by the damage of the Change Lever.
- ☐ Preparation
  Prepare a piece of tessa tape (length: 180 mm, width: 22 mm, fold one end 5 mm).
- ☐ Method

1. Turn off the printer to set the CR Unit to its home position.
2. Pull the CR Timing Belt, and move the CR Unit to the 80-digit side slightly so that the CR Unit can touch the side of the tip on the Change Lever.
3. Please attach the tessa tape as the following photo (Note: Refer to the details of good sample and bad sample for pasting position of tessa tape.)
4. Attach the unfolded end of tessa tape to the side of the CR Unit, and secure the CR Unit.

In order to prevent damaging the Change Lever, the CR Unit should be secured at the position indicated in Step 2. Therefore, when securing the CR Unit with tessa tape, hold the Timing Belt to keep the position of the CR Unit as is and avoid the CR Unit from moving to the 0-digit side.

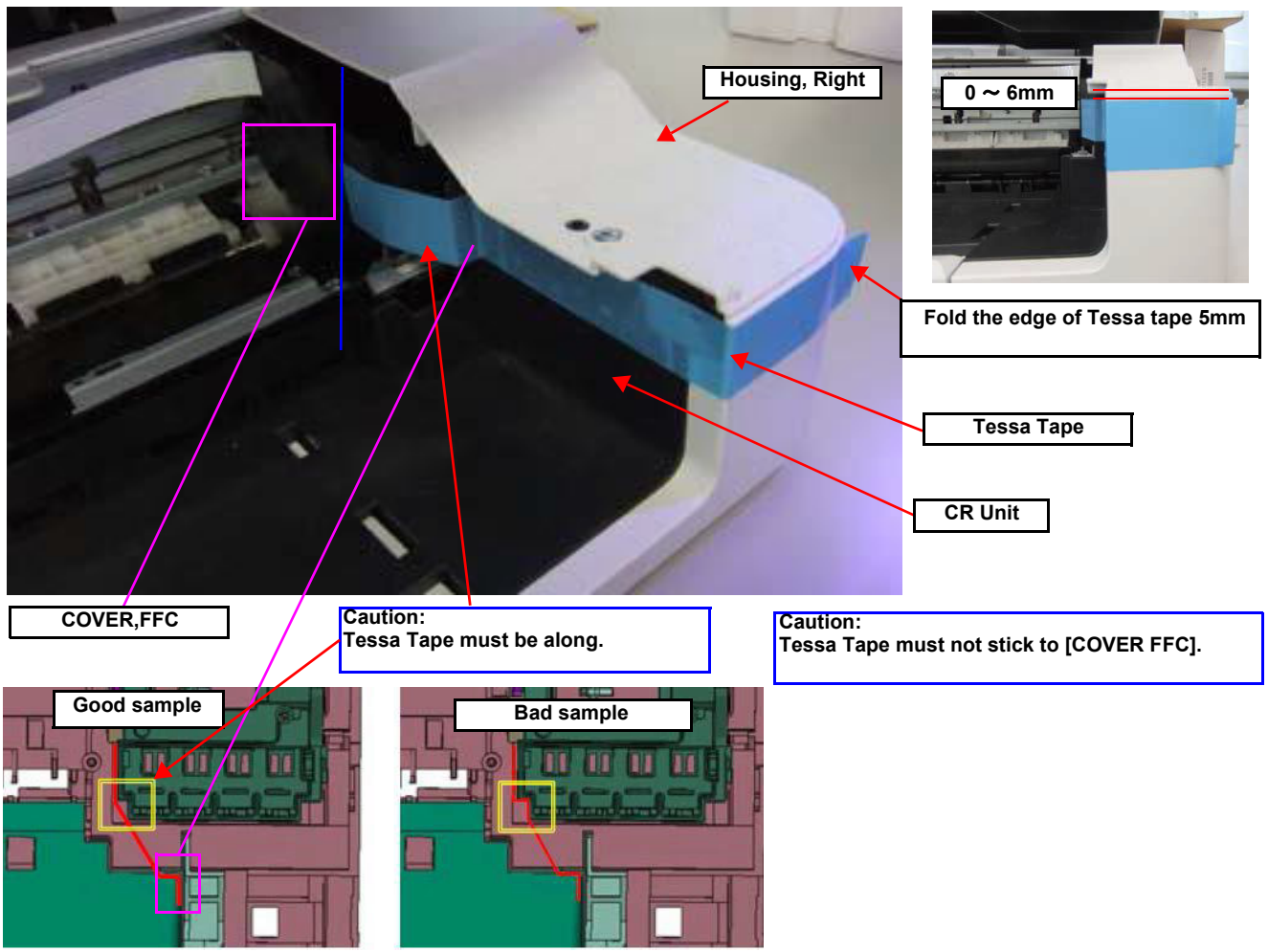


Figure 6-4. Securing the CR Unit

6.2.3 Securing the Paper Support Assy

- Purpose
  To prevent damaging the Paper Support Assy by the shock during transportation.
- Risks if it is not performed
  The Paper Support Assy will be scratched and the abrasion powder will be produced due to the shock during transportation.
- Preparation
  Prepare two pieces of tessa tape (length: 85 mm, width: 22 mm, fold one end 5 mm).
- Method
  Attach tessa tape on both sides of the Paper Support Assy and secure the Paper Support Assy to the Housing Right/Housing Left.

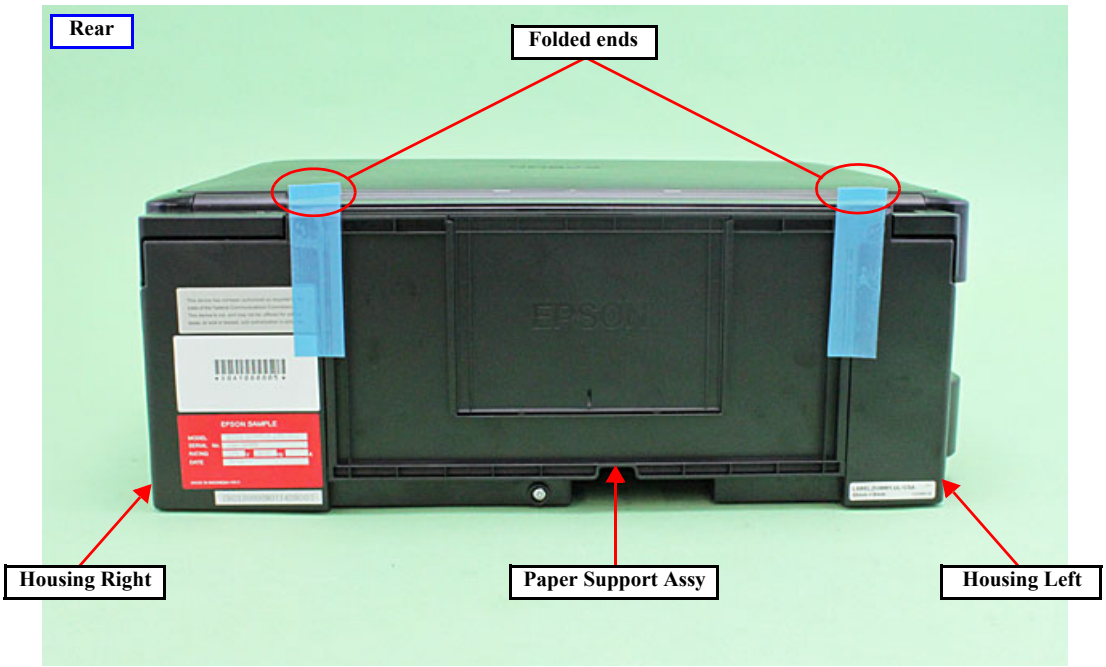


Figure 6-5. Securing the Paper Support Assy

6.2.4 FIRMWARE OF THE MAIN BOARD FOR ASP

Since the latest firmware is not written to the main board for ASP, it is necessary to write the latest firmware if the main board is replaced during repair. See below for firmware status and repair support.

	Status of ASP main board firmware	Requirement
1	IPL + latest firmware	-
2	IPL + initial firmware	Update to latest firmware
3	IPL only (no firmware)	After replacing the main board, write the latest firmware

As a method for determining the above, after replacing the main board for ASP, determine from the startup mode of the printer.

- ☐ When started normally => 1 or 2
- ☐ When started in "recovery mode" => 3 (*)

(*) If you turn on the power of a product with a main board that does not have firmware, the product will start up in "recovery mode".
Please refer to the following for how to write the firmware to the product started in "recovery mode".

1. After replacing the main board for ASP, when the product is turned on, it starts up in "recovery mode".
2. Write the latest firmware using EPSON Firmware Updater. (While writing, there is no change on the screen)

Figure 6-6. LCD display in recovery mode

3. Once the firmware has been written, the power will automatically turn off.
4. Power on and continue with adjustment/inspection.

<Reference>

5. If it becomes necessary to change the IPL of the main board after repair work, the IPL of the ASP main board in which only the IPL has been written cannot be directly rewritten. After writing the firmware, it is necessary to rewrite the IPL.

CHAPTER 7

XP-2100/2101/2105/2106/2150/2155/2200/2205

7.1 Overview

XP-240 series and XP-2100 series, XP-2200 Sseries use similar mechanism, and basically common to each other.
Therefore, most of the information in prior chapters can apply to XP-2100 series, XP-2200 series.
This chapter describes particular information only on XP-2100 series, XP-2200 series.

Changes on XP-2100 series

Parts are changed as shown parts list below.

Refer to Service Parts Information for details.

☐ Panel Unit

The sheet panel is not contained in the panel unit. Put the sheet panel of each SKU.

[Work method]

Attach [SHEET,PANEL] on [HOUSING,UPPER,PANEL].

1. Match left and top line

2. If attachment of [SHEET,PANEL] is failed, can't reuse it.

3. Don't peel off cover of [SHEET PANEL] when checking [SHEET PANEL].

[Check Point]

1.Make Sure [SHEET PANEL] no overlap onto [HOUSING PANEL UPPER], no floating, no wavy.

2.Check combination of [SHEET PANEL] and SKU.

For EEB,EAL

For Asia, EAI (Latin)

For EAL Derivative

For EEB

XP-2200 series ID

☐ XP-2100 series Parts List (Parts different from XP-240)

No.	Part Code	Block	Ref No.	Part Name	Remark
1	1767700	Case	105	PAPER SUPPORT ASSY.	Color change.
2	1765867	Case	107	STAND,SC;C	Color change.
3	2193467	Electronic Parts	200	BOARD ASSY.MAIN	-
4	2194158	Electronic Parts	202	WIRELESS LAN USB MODULE	Blue tooth addition (w/Harness change)
5	2168785	Electronic Parts	204	CR CONTACT MODULE	EMC tempering
6	1797032	Mechanism Parts	517	CR ASSY.;ASP	Fault Detection Plate deletion.
7	1767701	Mechanism Parts	702	HOPPER ASSY.,CH02	Color change in edge guide
8	2201996	Scanner	800	SCANNER UNIT;B;ASP	Scanner housing change and FFC according to panel change. Cover Document Scanner Design change.
9	1586011	Scanner	802	COVER,ASF;G	Design change.
10	1797027	Scanner	803	PANEL ASSY;B;ASP	Button, PS change. The sheet panel is not contained. Add optical tube panel.
11	Refer to SPI for each SKU	Scanner	804	Sheet, Panel; Assy	Refer to the above-mentioned.

Please refer to the SPI.

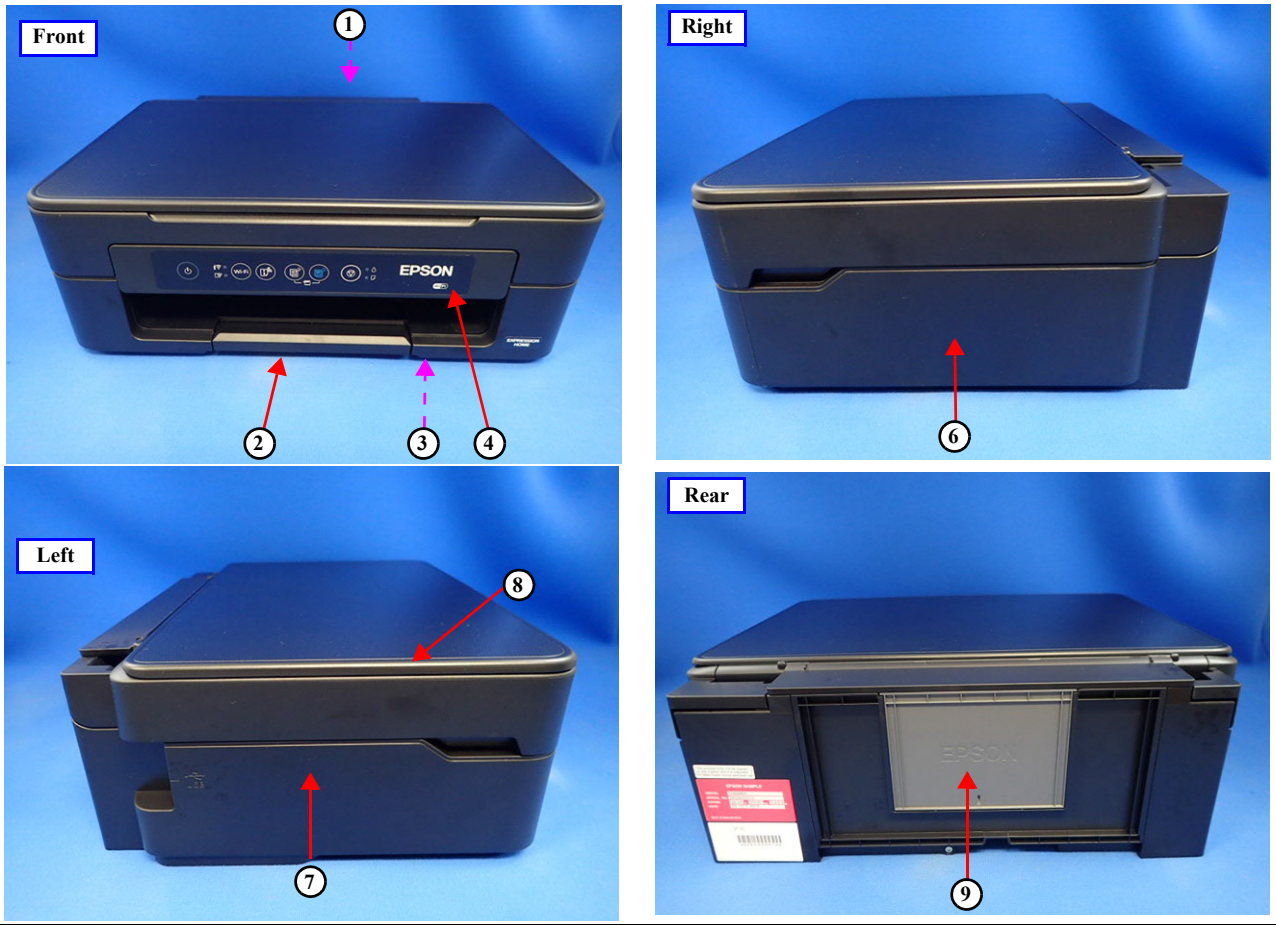
☐ XP-2200 series Parts List (Parts different from XP-2100 series)

No.	Part Code	Block	Ref No.	Part Name	Remark
1	1875824	Case	102	COVER, REAR,ICON,RPSK	Recycled material used.
2	2217977	Electronic Parts	200	BOARD ASSY.MAIN	-
3	2216385	Electronic Parts	204	CR CONTACT MODULE	Changes due to changes in ink cartridge CSIC.
4	2218584	Electronic Parts	205	CONNECTOR,CSIC. 5p	New CSIC support. (Pin qty change from 9 to 5.)
5	1895728	Mechanism Parts	517	CR ASSY.;ASP	Changes due to changes in ink cartridge CSIC.
6	Depends on the sales destination	Scanner	804	SHEET, PANEL;ASP	Refresh ID (New texture ID)
7	1767705	Scanner	805	COVER DOCUMENT Assy	Add ASP Parts. (Due to an additional request from the sales company)
8	---	ACCE	NON FIG	Ink Cartridge (Ink Cartridge's CSIC)	CS quality improvement.

Please refer to the SPI.

Confidential

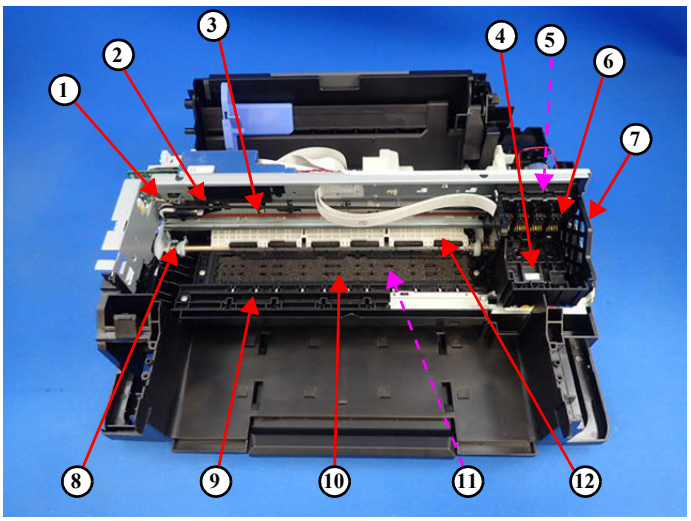
☐ Exterior parts(XP-2100 series, XP-2200 Sseries)



No.	Name	No.	Name
1	Housing Rear (p35)	5	Hinge (p38) (Separated Scanner and Panel type only)
2	Tray Front Assy (p35)	6	Housing Right (p38)
3	Frame Base Assy (p37)	7	Housing Left (p35)
4	Panel Unit • No LCD type (p 37) Panel Board Assy (p40) / Panel Buttons (p40) / Panel Housing Upper Assy (p40) / Panel Housing Lower Assy (p40)	8	Scanner Unit (p35) • Integrated Scanner and Panel type (p 39) Scanner Stand/Torsion Spring16.76 (p36) / Panel Unit (p36) / Panel FFC (p39) / Scanner Housing Upper (p39) / Scanner Carriage Unit (p39) / Scanner Housing Lower (p39) / CIS Module Unit (p39) / Scanner Motor (p39)
		9	Paper Support Assy (p35)

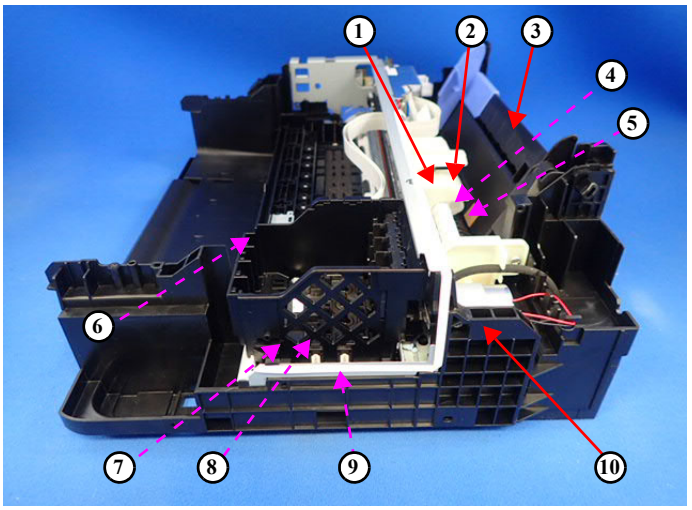
Figure 7-1. Exterior Parts

☐ Printer mechanism



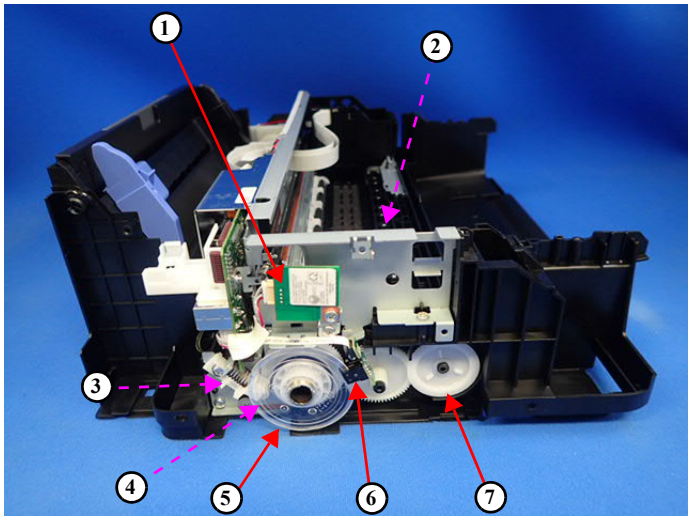
No.	Name	No.	Name
1	CR Driven Pulley Assy (p37)	7	CR Unit (p41)
2	CR Scale (p37)	8	PF Roller Unit (p41)
3	CR Timing Belt (p41)	9	Star Wheel Holder Assy (p38)
4	Printhead (p35)	10	Paper Guide Front Unit (p35)
5	CR Encoder Sensor (p41)	11	Paper Guide Lower Porous Pad (p35)
6	Holder Board Assy (p35)	12	Paper Guide Upper Assy (p41)

Figure 7-2. Printer Mechanism: Front



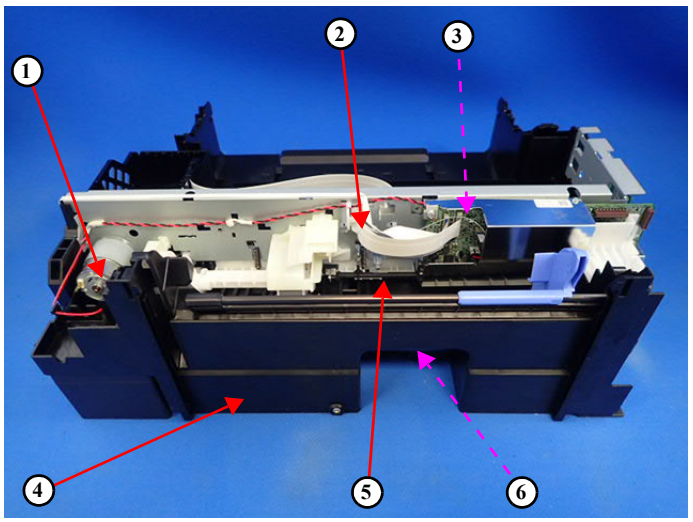
No.	Name	No.	Name
1	LD Roller Cover (p37)	7	Cap Lever (p38)
2	LD Roller Assy (p37)	8	Cap Assy (p38)
3	Hopper (p37)	9	Porous Pad for Cap Assy (p38)
4	Retard Roller Assy (p35)	10	Pump Unit (p41)
5	Paper Back Lever (p35)		
6	PIS Board Assy (p35)		

Figure 7-3. Printer Mechanism: Right



No.	Name	No.	Name
1	Wireless LAN Module (p35)	5	PF Scale (p38)
2	EJ Roller (p38)	6	PF Encoder Sensor (p38)
3	PF Motor Assy (p41)	7	EJ Roller Gear (p35)
4	PF Timing Belt (p38)		

Figure 7-4. Printer Mechanism: Left



No.	Name	No.	Name
1	CR Motor (p37)	4	Waste Ink Pad Assy (p35)
2	Head FFC (p41)	5	PE Sensor Lever (p37)
3	Main Board (p37)	6	PS Unit (p35)

Figure 7-5. Printer Mechanism: Rear